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WELCOME INNOVATION OR DISTRESSING IMPOSITION? THE EFFECTS OF BODY-WORN CAMERAS ON OFFICERS' ATTITUDES AND POLICING BEHAVIORS

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WELCOME INNOVATION OR DISTRESSING IMPOSITION? THE EFFECTS OF BODY-WORN CAMERAS ON OFFICERS' ATTITUDES AND POLICING BEHAVIORS

by

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March 2020

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Since 2014, the use of the body-worn camera (BWC) has rapidly expanded within the law enforcement community. This proliferation is due to public demands for transparency and reforms resulting from controversial confrontations between police officers and citizens. To date, the majority of scholarly research on BWCs has focused on measuring their ability to reduce complaints and use-of-force instances. Very little research has focused on the effects BWCs have on officers' attitudes and policing behaviors, which are at the core of how they do their jobs. The focus of this thesis is the correlation between BWCs and their effect on officers' attitudes and policing behaviors. I employed a qualitative thematic analysis using research study data from across the country to ascertain how BWCs are affecting officers' attitudes and potentially altering policing behaviors. I examine the potential for officers to engage in self-protective policing behaviors or de-policing and discuss strategies to mitigate those behaviors and improve BWC implementation. I present the process by which law enforcement transforms everyday citizens into police officers through training, and the development of the police officers' worldview as the foundation of base officer attitudes and beliefs. The social identity and social exchange theories are used as frameworks to better understand how police officers' attitudes change in response to their policing environments, organizations, and reforms.

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WELCOME INNOVATION OR DISTRESSING IMPOSITION? THE EFFECTS OF BODY-WORN CAMERAS ON OFFICERS' ATTITUDES AND POLICING BEHAVIORS

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ABSTRACT

Since 2014, the use of the body-worn camera (BWC) has rapidly expanded within the law enforcement community. This proliferation is due to public demands for transparency and reforms resulting from controversial confrontations between police officers and citizens. To date, the majority of scholarly research on BWCs has focused on measuring their ability to reduce complaints and use-of-force instances. Very little research has focused on the effects BWCs have on officers' attitudes and policing behaviors, which are at the core of how they do their jobs. The focus of this thesis is the correlation between BWCs and their effect on officers' attitudes and policing behaviors. I employed a qualitative thematic analysis using research study data from across the country to ascertain how BWCs are affecting officers' attitudes and potentially altering policing behaviors. I examine the potential for officers to engage in self-protective policing behaviors or de-policing and discuss strategies to mitigate those behaviors and improve BWC implementation. I present the process by which law enforcement transforms everyday citizens into police officers through training, and the development of the police officers' worldview as the foundation of base officer attitudes and beliefs. The social identity and social exchange theories are used as frameworks to better understand how police officers' attitudes change in response to their policing environments, organizations, and reforms.

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LIST OF ACRONYMS AND ABBREVIATIONS

AVL	Automatic Vehicle Locator
BWC	Body-worn Camera
BWCTTA	Body Worn Camera Training and Technical Assistance
CJSTC	Criminal Justice Standards and Training Commission
CST	Crime Suppression Team
FDLE	Florida Department of Law Enforcement
FTO	Field Training Officer
FTS	Field Training Supervisor
HD	High Definition
LVMPD	Las Vegas Metropolitan Police Department
MBPD	Miami Beach Police Department
NIJ	National Institute of Justice
NPS	Naval Postgraduate School
PERF	Police Executive Research Forum
POS	Perception of Organizational Support
POST	Peace Officers Standards and Training
SET	Social Exchange Theory
SIT	Social Identity Theory
TA	Training Advisor

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EXECUTIVE SUMMARY

Since 2014, the use of the body-worn camera (BWC) has rapidly expanded within the law enforcement community. This proliferation is due in part to public demands for transparency and reforms resulting from controversial confrontations between police officers and citizens. To date, the majority of scholarly research on BWCs has focused on measuring the technology's value to reduce complaints and use-of-force instances, even though those types of encounters account for less than 2% of police-citizen interactions.[1] Very little research has focused on the effects BWCs have on officers' attitudes and policing behaviors, which are at the core of how officers do their jobs and have a direct impact on crime rates. The focus of this thesis is how BWCs affect officers' attitudes and policing behaviors.

While this thesis provides a detailed overview of the components of a BWC system, to include the hardware, software, and the ancillary components needed to deploy a new BWC program, it is most concerned with the human component of a BWC system, the officers themselves. In understanding the officer-BWC dynamic, it is first important to understand the officer and how they develop their foundational policing attitudes. This transformation process from an ordinary citizen to a police officer directly influences how they perceive the world around them and themselves in it, and develop their policing attitudes and behaviors. The police officer's worldview and how it influences their social interactions, attitudes, and behaviors are analyzed using social identity theory (SIT) and social exchange theory (SET) as frameworks of analysis. A police officer's social identity within their in-group has a profound influence on their attitude and policing behaviors and has a direct impact on the acceptance of BWC and how it is used in the field. SET demonstrates how organizational changes may be perceived as an unfair affront to the

[1] Shelley Hyland, Lynn Langton, and Elizabeth Davis, "Police Use of Nonfatal Force, 2002–11," Department of Justice, Bureau of Justice Statistics, November 2015, 1. http://www.bjs.gov/index.cfm?ty=pbdetail&iid=5456.

working conditions and result in the development of negative attitudes or the use of self-protective behaviors to mitigate the perceived unfairness of a change.[2]

A transformational technology like BWC has the potential to impact officers' attitudes and policing behaviors in several ways, which have direct implications on policing effectiveness and crime rates. One potential change in policing style is when officers choose to limit their interaction with suspicious persons or prolific offenders, who are more likely to offer confrontation or resistance. Instead, these officers engage in traffic enforcement or other policing practices, which allow for the officers to remain productive while still limiting exposure to more dangerous confrontations. The potential for officers to engage in self-protective policing behaviors or de-policing is examined and strategies to mitigate those behaviors and improve BWC implementation are discussed.

For the research and analysis phase, a qualitative thematic analysis method was employed, using research study data from across the country, to ascertain how BWCs are affecting officers' attitudes and potentially altering policing behaviors. In all, more than 350 separate items of data were identified, reviewed, and included within the scope of this analysis. These data were evaluated from two separate perspectives to identify recurring themes present in the wake of a BWC deployment. The first perspective was to analyze data obtained from officer surveys to identify patterns related to how the officers feel about their profession, BWC technology, and their impact on policing. The second aspect used measures of officer productivity to identify recurring patterns or themes indicative of changes in officer productivity in the wake of a BWC deployment.

A. THEMATIC ANALYSIS RESULTS

1. Officer Perceptions

Overall, the themes identified in this section translate to officers perceiving BWC technology as more of a hindrance than an innovation. Since the majority of themes

[2] Richard C. Helfers, Paul D. Reynolds, and Jon Maskály, "Applying Social Exchange Theory to Police Deviance: Exploring Self-Protective Behaviors among Police Officers," *Criminal Justice Review*, September 4, 2018, 1–21, https://doi.org/10.1177/0734016818796547.

identified negative views of BWCs, the technology has the potential to adversely impact officers' attitudes and policing behaviors.

The following recurring themes were identified from officer perceptions expressed in the analyzed dataset:

- Officers believe BWC will neither improve nor increase officer safety.
- Officers believe BWCs will not improve their job satisfaction or performance.
- Officers are more reluctant to stop suspicious people.
- Officers are more cautious in their decision-making.
- Officers are more reluctant to use force even when justified.
- BWCs will reduce police officers' discretion in decision-making.

2. Themes

A recurring theme in all of the studies reviewed in this analysis was that agencies saw some manner of change in productivity after the deployment of BWCs; however, the change in productivity varied as positive, negative, or mixed, depending on the specific agency. Some agencies saw a decrease in productivity; others saw mixed results, with some measures of productivity increasing and others decreasing. A small percentage of departments analyzed in this section saw slight increases in some measure of productivity like citations or arrests after BWC deployment.

- All agencies within the dataset reported some fluctuation in productivity after BWC deployment.
- In 70% of the agencies reviewed, the changes in productivity were negative.
- There is evidence of de-policing present in three of the ten agencies reviewed.

- There is no direct causation identified between BWC deployments and de-policing.
- Any increases in productivity were primarily in the area of traffic enforcement.

In conclusion, this thesis provides recommendations for successful BWC implementation and enhancements to officers' training to mitigate the emergence of self-protective behaviors and negative attitudes toward BWCs. The police body-worn camera is a relatively new piece of technology that has tremendous potential to provide the public with an insider's view of what transpires in interactions between the police and the citizens they serve. This potential strength must be tempered with the technology's limitations in order to create realistic expectations for the public and the law enforcement community.

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Acceptance to NPS and the requisite trials and tribulations of attending the most challenging master's program in the field of homeland security is an honor that few people get to experience. I consider myself privileged to be among the few who have had the opportunity to attend NPS and to represent my organization as its first agency member selected to attend and graduate from the NPS Center for Homeland Defense and Security program. Throughout the last 18 months, my colleagues and I spent 12 weeks away from our families attending in-residence courses and endured long hours studying while back home during the distance-learning periods to reach this gratifying conclusion to this adventure. However, I must acknowledge that my acceptance to and subsequent success at NPS would not have been possible without the enduring love and support of my wife and children. Any success I have achieved in the last 15 years of my career and life, I owe to the support and sound advice my wife has always provided me since the day we met. Although I admit my stubbornness in not following it sometimes, I understand that her advice has always come from the heart and with the best intentions. I genuinely hope that my achievements at NPS and moving forward in my career will make my family proud and demonstrate that all the collective hardships endured were worthwhile. Thank you to my wife and our children for loving and supporting me and for allowing me the opportunity to be at NPS and complete this program.

I would next like to thank Miami Beach Police Chief Rick Clements and retired Chief Daniel Oates for supporting my application to NPS, opening many doors to further my career and allowing me to be part of this program. I also wish to thank Miami Beach Fire Department Assistant Chief Juan Mestas and IACP past president and retired MBPD Chief Donald De Lucca for their letters of recommendation, which were instrumental in my gaining acceptance to this prestigious program.

To my fellow graduates in Cohort 1705/1706, I am a better person, leader, thinker and homeland security professional from this interactive experience. I thank each of you for your brilliance, humor, and comradery. It has been an absolute pleasure being in the presence of such an intelligent group of professionals, and I wish you good health and

continued success, and look forward to following each of your career successes in the future.

I have to thank all my professors, especially my thesis adviser, Dr. Mollie McGuire, for her patience, diligence, candor, and openness to my ideas in writing this thesis. I also would like to thank my second reader, Dr. Shannon Brown, for his insight and support of this research and topic. I would also like to thank Dr. Lauren Wollman for supporting the outside-the-box ideas I incorporated into this thesis.

I wish to thank Dr. Barak Ariel, from Cambridge University, for his generosity in allowing me to use his unpublished research data as part of my thesis. Dr. Ariel is one of the most prominent researchers in the world on the topic of body-worn camera technology. His gracious support of this project allowed it to contain the most relevant and timely research available on this topic.

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- Professor Seth Stoughton, JD, University of South Carolina
- Dr. Bradley Campbell, University of Louisville

To non-law enforcement personnel reading this thesis, I hope the topics discussed within it serve to provide you a better understanding of BWC technology, but more importantly, I hope it provides a better understanding of the human beings entrusted by our

society to protect our democracy: police officers. May this thesis provide insight into the nuances, complexities, and humanness of police officers so that when they err, they may be treated with more empathy than apathy and above all else, afforded the same considerations given to all fallible human beings.

Finally, I would like to thank every police officer, supervisor, and homeland security professional who takes the time to read this thesis and hopefully finds a kernel of value they can employ in their important work, which helps keep police officers and the public safe from the myriad threats we face collectively every day.

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I. INTRODUCTION

Throughout history, the emergence of new technology has played a critical role in how human beings interact with their environment and one another, do their jobs, and live their lives. Historically, the policing profession has seen significant paradigm shifts related to the introduction and implementation of new technology.[1] This fact is illustrated when one sees the transformation of the policing profession from the 19th-century officers who walked a beat relying on word of mouth or callboxes to alert them to a call for assistance, to the period after World War II when many modern police departments began to use automobiles and radio dispatch patrol.[2] The technological innovations of automobiles and portable radios systematically changed the way officers performed their duties by increasing mobility and communications. The improved mobility brought about by technological innovations allowed police officers to have greater autonomy and limited opportunities for direct supervision of the individual officer in the field.[3]

Within the field of law enforcement, the role of technologies such as telephones, call boxes, portable radios, automobiles, laptop computers, and mobile phones emerged out of necessity to keep pace with society at large.[4] Still, other technological innovations, like fingerprint identification and DNA profiling, primarily emerged due to a recognized need within the law enforcement community to aid in the identification of criminals and enhance investigative capabilities. Each one of these new technologies brought about fundamental changes to traditional policing practices and led to an organizational change in many departments. Body-worn camera (BWC) technology represents an evidentiary enhancement technology as well as a tool for the accountability of officers. The emergence of BWC technology has not expanded from an internal need within the policing profession

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[1] Mathieu Deflem and Stephen Chicoine. "History of Technology in Policing," in *Encyclopedia of Criminology and Criminal Justice*, eds. Gerben Bruinsma and David Weisburd (New York: Springer New York, 2014, 2269), https://doi.org/10.1007/978-1-4614-5690-2_253.

[2] Deflem and Chicoine, 2269–70

[3] Deflem and Chicoine, 2269–70

[4] Deflem and Chicoine, 2269–70

to provide digital evidence for the prosecution of crimes; it has expanded its presence primarily from an external social and political demand for transparency, accountability, and reforms to policing practices.

BWC technology is a relatively new yet potentially transformative technology that has entered the law enforcement industry at a rapid pace since 2014.[5] Although BWC technology has been available since the mid-2000s, it has only recently begun to enter widespread service within the United States.[6] Proponents of the technology espouse its potential to restore public confidence, transparency, and legitimacy to law enforcement. Preliminary research studies have identified BWCs' ability to reduce citizen complaints and instances where officers use force as evidence of its efficacy.[7] Although numerous studies have been performed to evaluate the effectiveness of BWCs to reduce complaints and use-of-force incidents, there are only a few studies that focus on how BWC will affect the human beings mandated to wear them: the police officers. This thesis examines how the implementation of BWC technology impacts the attitudes and behaviors of the officers wearing the cameras and how a change in officers' attitudes can influence their policing practices.

A. PROBLEM STATEMENT

Since 2014 , the law enforcement community has experienced the rapid adoption of BWC technology. The integration of BWC programs with law enforcement agencies nationwide occurred in the wake of numerous controversial and highly publicized police-

[5] Danielle Wallace et al., "Body-Worn Cameras as a Potential Source of De-policing: Testing for Camera-Induced Passivity," *Criminology* 56, no. 3 (May 2, 2018): 3, https://doi.org/10.1111/1745-9125.12179.3.

[6] Cameron Barr, "Body-Worn Cameras for Police? Britain Started Long Ago," *Washington Post*, December 2, 2014. https://www.washingtonpost.com/news/post-nation/wp/2014/12/02/body-worn-cameras-for-police-britain-started-long-ago/.

[7] William H. Sousa et al., "Research on Body Worn Cameras: Meeting the Challenges of Police Operations, Program Implementation, and Randomized Controlled Trial Designs," *Police Quarterly* 19, no. 3 (September 2016): 365, https://doi.org/10.1177/1098611116658595.

citizen encounters.[8] The 2014 shooting death of Michael Brown in Ferguson, Missouri, is just one example of a controversial and widely publicized case cited by many activists and politicians to call for reforms and transparency in law enforcement.[9] The ensuing public outcry and media scrutiny resulted in a tremendous amount of political pressure placed upon elected officials and law enforcement leaders to enact criminal justice reforms to restore the public's confidence in their police officers. This public pressure and media scrutiny led to an immediate need to identify a pathway to provide the public with a mechanism toward achieving increased transparency and restoring police legitimacy. A readily available technological solution, which held the most promise to address the public outcry, was BWCs. The Department of Justice under President Obama enacted programs to provide grant funding to law enforcement agencies to initiate BWC programs, which has issued more than $60 million in grants since 2015.[10] The result was a proliferation of BWC technology within the industry where, by the end of 2015, more than a third of all law enforcement agencies in the country reported initiating a BWC program.

Additionally, almost 95% of the more than 500 agencies surveyed in 2015 reported a profound interest in initiating a BWC program.[11] This expansion continued into 2016, where almost 47% of the 15,000 law enforcement agencies in the country reported having acquired BWC technology.[12] The same report showed that 80% of the largest law enforcement agencies in the country, employing 500 or more officers, had already established BWC programs.[13]

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[8] Kami N. Chavis, "Body-Worn Cameras: Exploring the Unintentional Consequences of Technological Advances and Ensuring a Role for Community Consultation," *Wake Forest Law Review* 51, no. 5 (2016): 985.

[9] Chavis, 985.

[10] Michael D. White, Natalie Todak, and Janne E. Gaub, "Examining Body-Worn Camera Integration and Acceptance Among Police Officers, Citizens, and External Stakeholders," *Criminology & Public Policy* 17, no. 3 (2018): 650, https://doi.org/10.1111/1745-9133.12376.

[11] Thomas J. Manger, et al., "Major Cities Chiefs and Major County Sheriffs Survey of Technology Needs – Body Worn Cameras." Major Cities Chiefs & Major County Sheriffs Association, December 2015. https://assets.bwbx.io/documents/users/iqjWHBFdfxIU/rvnT.EAJQwK4/v0.49.

[12] Shelley S. Hyland, "Body-Worn Cameras in Law Enforcement Agencies, 2016," Department of Justice, Bureau of Justice Statistics, 2016. https://www.bjs.gov/content/pub/pdf/bwclea16.pdf.

[13] Hyland, 2.

The academic community has taken a keen interest in the effectiveness of BWC technology, resulting in the publication of numerous scholarly studies to gauge its utility in two primary areas of concern to both academia and the public: the BWC's ability to reduce citizen complaints and instances where officers have to use force.[14] However, many of these studies did not consider how the technology might affect police officers' attitudes and behaviors, and how such a shift in attitude and behavior might alter policing practices. The primary focus of many of these studies is the effectiveness of BWC technology in reducing perceived negative officer behaviors, which result in citizen complaints and use-of-force incidents.[15] However, minimal consideration is given to how police officers, valuable stakeholders in the effective deployment of a BWC system, will receive the technology and integrate it into their policing practices.

Reductions in complaints and use-of-force incidents have been the most widely touted benefits and the primary evaluative metrics in many studies of BWC technology.[16] However, the reduction in complaints and use-of-force instances that many studies hold as proof of the efficacy of BWC technology might have another possible explanation. One possibility is officers may be reducing community engagement and enforcement actions, or "de-policing," as a result of being assigned a BWC. The term "de-policing," recently referred to as the "Ferguson effect," is used to describe actions by police officers that reduce their proactive engagement with the public in order to avoid the negative consequences of becoming involved in a controversial critical incident, like a use of force.[17] Theoretically speaking, since officers cannot fully control the behavior or actions of the public with whom they engage, or curb the ever-present potential for an interaction to lead to a use-of-force incident, officers can limit or disengage from self-initiated actions

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[14] Barak Ariel et al., "The Effect of Police Body-Worn Cameras on Use of Force and Citizens' Complaints against the Police: A Randomized Controlled Trial," *Journal of Quantitative Criminology* 31, no. 3 (September 2015): 509–35, https://doi.org/10.1007/s10940-014-9236-3.

[15] Ariel et al., 509–535.

[16] Ariel et al., 509.

[17] John A. Shjarback et al., "De-policing and Crime in the Wake of Ferguson: Racialized Changes in the Quantity and Quality of Policing among Missouri Police Departments," *Journal of Criminal Justice* 50 (May 2017): 42–52. https://doi.org/10.1016/j.jcrimjus.2017.04.003.

as a form of self-protection.[18] If these self-protective behaviors become widespread, it could have a direct impact on crime rates, as policing studies have shown that community engagement is a founding pillar of successful community policing practices and crime control.[19] Although self-protective behaviors by the police are more difficult to measure and identify, they can affect the fear or perception of crime as these behaviors are also influenced by a reduction in community engagement.[20]

When it comes to handling calls for service, most agencies dispatch their officers to calls remotely, via radio or computer, and the officers are required to respond and handle the call. This aspect of their duties is beyond an officer's control, limiting their discretionary authority. However, studies have suggested that the majority of officers' daily shift consists of unassigned time during which they can proactively patrol or take other enforcement action. It is this discretionary ability that allows officers to focus their free time on conducting routine patrol, traffic enforcement, business checks, or non-enforcement activities, instead of suspicious person checks or street-level drug enforcement, the latter of which is more likely to lead to confrontations, complaints, and use of force.[21]

By operating at their discretion, police officers can decide how to police the communities they serve. Officers are required by laws and policies to respond to calls and perform nondiscretionary duties for part of their shifts. However, during the majority of their shifts, the officers themselves decide whether to engage in self-initiated activity.[22] This discretionary capacity allows officers to choose how and with whom they engage

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[18] Shjarback et al.

[19] George L. Kelling, "Policing, Rightly Understood," *City Journal*, January 8, 2019, https://www.city-journal.org/community-policing.

[20] William H. Sousa and George L Kelling. "'Broken Windows' Criminology and Criminal Justice." *Criminology and Criminal Justice*, October 2004, 5.

[21] Scott W. Phillips, "Police Discretion and Boredom: What Officers Do When There Is Nothing to Do," *Journal of Contemporary Ethnography* 45, no. 5 (October 2016): 580–601, https://doi.org/10.1177/0891241615587385.

[22] Phillips.

when conducting any self-initiated enforcement activity, or whether to conduct any self-initiated enforcement activity at all.[23]

A police officer's attitude toward the profession plays a significant role in the manner in which the officer performs their duties.[24] Like all human beings, police officers' attitudes and beliefs influence their behaviors. A healthy amount of data shows the influence an individual's attitude has upon their motivation and behaviors toward their job.[25] For police officers, the mandate from superiors to wear a BWC and its accompanying level of potential increased surveillance and scrutiny may be a source of anxiety and stress, affecting officers' attitudes and behaviors toward their profession. For example, if a police officer, newly assigned a BWC, was to develop a negative attitude or behavior due to the mandate to use the BWC, it would likely affect their performance. If that officer consciously decides to alter how they patrol, the result could be reduced public contact or selective engagement with members of the public who are less likely to act in a confrontational manner, lessening the potential for the use of force. If the officer elects to self-initiate activity that is less likely to result in an arrest or confrontation, this would also reduce citizen complaints and use-of-force instances from the obvious reduction in public contact. An example of this would be an officer who, before being assigned a BWC, actively enforced narcotics violations in a high-crime area by regularly engaging with known drug offenders, an activity that is likely to result in offenders fleeing or resisting, thus generating more use-of-force instances. If that officer were to develop a negative attitude toward the technology or a higher level of anxiety as a result of being mandated to wear the technology, that officer might decide to alter their policing style or manner of community engagement as a means of self-protection.

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[23] Joseph Goldstein, "Police Discretion Not to Invoke the Criminal Process: Low-Visibility Decisions in the Administration of Justice," *The Yale Law Journal* 69, no 4 (1960): 543–94, https://doi.org/10.07/794445; Ovid C Lewis, and Kenneth Culp Davis, "Discretionary Justice: A Preliminary Inquiry," *Case Western Reserve Law Review* 21, no. 1 (November 1, 1969): 11, https://doi.org/10.1177/000271626938600126

[24] Richard R. Johnson, "Officer Attitudes and Management Influences on Police Work Productivity," *American Journal of Criminal Justice* 36, no. 4 (December 2011): 293, https://doi.org/10.1007/s12103-010-9090-2.

[25] Johnson, 295.

The influence of BWC technology on officers' attitudes and behaviors is the focus of this thesis. The goal of this study is to review the available research on BWC technology to analyze its effect on officers' attitudes and behaviors and the resulting influence on their performance. If a significant number of officers develop a negative attitude as a result of the BWC assignment, it may lead to instances of de-policing. According to Cooper, de-policing is a reduction in policing intensity as a result of dissatisfaction with the work environment.[26] This research is significant to the homeland security enterprise because the potential negative implications from widespread BWC-influenced de-policing, especially when deciding to engage in potential conflict situations, could lead to increases in crime rates and the public perception of crime. Although there may not be specific data collected or available yet to indicate the presence of widespread BWC-influenced de-policing, this study highlights potential problem and presents it as a focus of future research. Additionally, if evidence of BWC de-policing is identified, strategies to assist agency leaders to mitigate or prevent deliberate passivity when deploying BWCs in their departments are discussed.

B. RESEARCH QUESTION

In what ways do BWCs alter police officers' attitudes and behaviors toward their duties?

C. LITERATURE REVIEW

This literature review details the current scholarly research available on the effects of BWC technology on police officers' attitudes and behaviors. Although this technology is relatively new within the U.S. law enforcement community, numerous research studies specific to this technology and its efficacy date back to 2013. However, studies capturing specific data on how BWCs affect police officers' attitudes and behaviors are quite limited and have only recently become a focus of research.

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[26] Frank Rudy Cooper, "Understanding 'De-policing': Symbiosis Theory and Critical Cultural Theory," *UMKC Law Review* 71 (January 1, 2002): 355–955.

1. Existing BWC Research

a. Rialto Police Department Study

The majority of the early BWC studies focused on the technology and its ability to reduce complaints against officers and instances in which they used force.[27] One of the earliest and most widely cited studies was conducted in 2012–2013 by the Rialto (California) Police Department and Cambridge University. Commonly referred to the Rialto Experiment, this yearlong study followed the effectiveness of BWCs deployed with 54 officers of the Rialto Police Department and the effectiveness of BWCs at reducing complaints against officers and instances in which officers had to use force.[28] This study mainly focused on comparing the number of complaints and use-of-force incidents before and after the deployment of BWCs.[29] Among the limitations of this study, acknowledged by the authors, was the relatively small sample size and questions as to the transferability of the data to larger departments.[30] Also, the study did not focus on how BWCs affected policing practices beyond reducing complaints and use of force. The study's principal author, Barak Ariel of Cambridge University in England, has become one of the foremost academic experts on BWC technology. Ariel has published over a dozen separate studies related to BWC technology and its effectiveness.

b. Contagious Accountability

In 2016, Ariel et al. released a report titled "Contagious Accountability," which details the methodology and results of detailed study on the effect of body-worn cameras on citizen complaints against the police.[31] This study took place at seven different sites throughout the world and used a sample of more than 2,000 officers, measuring the

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[27] The use of the term "early" refers to studies conducted prior to August 2014 when the shooting death of Michael Brown occurred in Ferguson, MO.

[28] Ariel et al., "The Effect of Police Body-Worn Cameras," 510.

[29] Ariel et al., 510.

[30] Ariel et al., 519.

[31] Barak Ariel et al., "Contagious Accountability: A Global Multisite Randomized Controlled Trial on the Effect of Police Body-Worn Cameras on Citizens' Complaints against the Police," *Criminal Justice and Behavior* 44, no. 2 (February 2017): 294, https://doi.org/10.1177/0093854816668218.

instances of citizen complaints. The report details how the goal of this study was to replicate the Rialto Experiment at police departments around the world, to gauge whether the results obtained in Rialto could be replicated.[32] This study had a considerably more robust sample encompassing over 1.4 million officer hours across more than 4,000 shifts within jurisdictions, covering a total population of almost two million constituents.[33]

The second study identified an unanticipated consequence of BWC issuance and how their mere presence affected the behavior of all officers in the department, even the ones who had not been issued BWCs.[34] One of the most noteworthy findings of this study was a reduction in complaints in both the treatment and control groups.[35] The authors attributed this reduction to "contagious accountability," a term that describes the change in the behavior of officers throughout a department when BWCs are deployed.[36] Since all the personnel in the department are aware of the deployment of BWCs, all officers modified their behaviors, even the ones who did not wear cameras during the study.[37]

2. Study of Major Departments

In 2016, Ariel released the findings of another BWC study conducted at the Denver (Colorado) Police Department. In this study, BWCs were deployed in one geographical district of the Denver Police Department and five other districts served as control groups. This study was one of the first to acknowledge that the presence of BWCs has altered the behavior of both the officers wearing the cameras and the citizens they interact with, as explained by deterrence and self-awareness theories.[38] The results of this study were quite interesting and opened the discussion on BWCs to the possibility that the cameras

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[32] Ariel et al., 298.

[33] Ariel et al., 298.

[34] Ariel et al., 305.

[35] Ariel et al., 306.

[36] Ariel et al., 306.

[37] Ariel et al., 306.

[38] Barak Ariel, "Police Body Cameras in Large Police Departments," *Journal of Criminal Law & Criminology* 106, no. 4 (Fall 2016): 735, http://scholarlycommons.law.northwestern.edu/jclc/vol106/iss4/3

influenced officers' decision to make arrests.[39] This conclusion was derived from a documented 53% decline in arrests made by the officers with cameras. According to the conclusions in this study, "With the introduction of BWCs, officers became 'cautious' about arresting suspects, as their decisions could be more easily criticized."[40] In addition to the findings on arrests, this particular study found a 35% reduction in citizens making a complaint against the police using excessive force, but the study also found a 14% increase in the likelihood of a complaint of misconduct in the presence of the BWC. The final measure of this study showed no discernable difference concerning use of force between the camera and non-camera groups.[41]

Additional researchers like Headley et al., Gaub et al., and White conducted research and published studies related to BWC technology. White published a 2014 report, sponsored by the Office of Justice Programs of the Department of Justice, that assessed the evidence related to the efficacy of BWC. This report identifies the perceived benefits of BWC technology as improvements to both officer and public behavior in the presence of BWC.[42] However, the 2014 report identifies a lack of empirical evidence and studies at that time to evaluate the efficacy of the technology.[43] This report identifies numerous areas of focus for future research and identifies partnerships between independent researchers and departments desiring to evaluate BWC technology as a critical step forward.[44] White encourages individual agencies to evaluate the impact of BWC technology on their organizations related to costs and the public regarding issues of privacy. White's written guidance is relevant to this thesis from the standpoint that the expeditiousness with which many police agencies moved forward with BWC deployments was such that they likely did not heed his advice.

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[39] Ariel, 729–768.

[40] Ariel, 729–768.

[41] Ariel, 729–768.

[42] Michael White, *Police Officer Body-Worn Cameras: Assessing the Evidence* (Washington, DC: Office of Justice Programs, Department of Justice, 2014).

[43] White, 39.

[44] White, 41.

3. Summary

The common focus of many of these early studies was to gauge the effectiveness of the BWC technology in reducing complaints against officers and use-of-force instances. With this primary metric of evaluation, the deployment of BWC technology correlated with a reduction in use-of-force incidents and complaints against officers. What many of these early researchers did not identify as a primary area of study was how this technology would affect the very people wearing them beyond what the researchers identified as negative officer behaviors: use of force and complaints. In reviewing the early studies, most researchers focused on the efficacy of BWCs to reduce negative behaviors. However, these studies did not evaluate the human factor, represented by the police officers wearing the technology, concerning how the officers' attitudes toward the technology might influence their policing practices and discretion in how to do the job. The studies demonstrate that the deployment of BWC resulted in a change in officer behavior in the form of reduced complaints and use-of-force incidents, which were perceived to be an improvement in interactions with the public. However, these studies did not evaluate changes in officer attitudes and behavior post-BWC deployment and how that might affect their performance or policing decisions.

D. STUDIES EVALUATING OFFICER PRODUCTIVITY

Researchers have begun to focus on the potential for BWC technology to lessen police officer productivity.[45] The concept of de-policing has been a research topic by scholars for more than three decades. However, only now are scholars beginning to evaluate the concept of BWC-induced de-policing. As a result, studies conducted at agencies like the Spokane (Washington), Las Vegas (Nevada), Hallandale (Florida), Louisville (Kentucky) and Miami Beach (Florida) Police Departments have considered the

[45] Joshua Chanin and Brittany Sheats, "De-policing as Dissent Shirking: Examining the Effects of Pattern or Practice Misconduct Reform on Police Behavior," *Criminal Justice Review* 43, no. 2 (June 2018): 105–26, https://doi.org/10.1177/0734016817704696; Wallace et al., "Body-Worn Cameras as a Potential Source of De-policing."

effects BWCs may have on officer engagement and productivity.[46] These studies yielded mixed results. The Spokane study showed no evidence of de-policing.[47] The Las Vegas study showed an increase in productivity post-BWC.[48] Studies at the Hallandale, Louisville and Miami Beach Police Departments (MBPD) reflected reduced productivity after BWC deployment.[49] These results suggest that reduced productivity in the wake of BWC deployment may be influenced by factors such as individual departmental culture, training, and officers' acceptance of the technology.[50] Additional research is needed to understand better why reduced productivity and de-policing occurs in some agencies and not in others, and how police leaders can implement measures to increase acceptance and mitigate or prevent de-policing.

1. Attitudes and Perceptions

Police officers are one of the most widely researched subcultures in the United States. Their perceptions, attitudes and behaviors are routinely analyzed for various research purposes. In order to understand how BWC technology has or has not influenced officers' attitudes and behaviors, it is beneficial to provide a baseline understanding regarding current officer perspectives of their profession in general. This thesis reviews data from published studies and surveys that capture information on police culture, officers' perceptions, attitudes, and behaviors.

In 2016, the Pew Research Center surveyed police officers and members of the public nationwide to obtain their perceptions of one another.[51] A report by Morin et al.

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[46] Anthony A. Braga et al., "The Effects of Body-Worn Cameras on Police Activity and Police-Citizen Encounters: A Randomized Controlled Trial," *J. Crim. L. & Criminology* 108, no. 3 (2018): 511–538, https://scholarlycommons.law.northwestern.edu/jclc/vol108/iss3/3.

[47] Wallace et al., "Body-Worn Cameras as a Potential Source of De-policing,"1–29.

[48] Braga et al., "The Effects of Body-Worn Cameras on Police Activity and Police-Citizen Encounters," 511–538.

[49] Barak Ariel, "The Mediating Effects of Group Dynamics, Culture, and the Status of Policing in America: Miami Beach Police's Body Worn Camera Project," unpublished research study, March 2018.

[50] Ariel.

[51] Rich Morin et al., "Behind the Badge: Police Views, Public Views," Pew Research Center, January 11, 2017, http://www.pewsocialtrends.org/2017/01/11/police-views-public-views/.

titled “Behind the Badge” reviewed the results. This survey and its results apply to the research question because they capture current perceptions and attitudes toward the profession by a large sample size of police officers from across the United States.[52] The large sample size of 8,000 officers makes the survey results more generalizable and provides a snapshot of how police officers feel about their profession in the current socio-political climate in our country. The survey also asks both police officers and the public their feelings on BWC technology and its usefulness. According to the survey, a statistically significant number of police officers (93%) felt more concerned for their safety following some of the high-profile incidents between officers and the public. The survey also shows a vast majority of officers believe their job has become more difficult; they are more reluctant to use force or stop and question suspicious people. The results of the survey also found a majority of officers, roughly two-thirds, held positive attitudes toward BWC technology, but only one-third felt the cameras would make the public more cooperative with officers.[53]

Many BWC researchers also included surveys as part of their research methodologies, and data from these surveys mirror some of the results of the Pew survey; however, some of the data contradicts the results from Pew. The as-yet unpublished Ariel et al. randomized control trial at the MBPD found that roughly two-thirds of the 220 officers surveyed felt BWC technology would have an adverse effect on proactive police work, and only one-third of officers felt BWC was a positive change for the agency.[54] The available research capturing officer perspectives of BWC technology is inconclusive on how the majority of officers feel about the technology.

2. Master’s Theses Related to BWCs

In addition to the scholarly research studies completed on BWC technology, several master’s theses have been produced, which are relevant to this thesis. “Not Just Another

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[52] Morin et al., 5.

[53] Morin et al., 85.

[54] Ariel, “The Mediating Effects of Group Dynamics, Culture, and the Status of Policing in America: Miami Beach Police’s Body Worn Camera Project.”

Piece of Equipment: An Analysis for Police Body-worn Camera Policy Decisions," a 2017 master's thesis by Naval Postgraduate School (NPS) graduate Giacomo Sacca, provides relevant comparisons between the implementation of police dashboard-cameras and BWCs.[55] Sacca also details the circumstances under which police dashboard-cameras emerged into the industry and the influencing factors that expanded the use of the technology.

In addition to the work by Sacca, the masters' thesis authored by NPS graduate Paul Junger titled "The Effects of Hypervigilance on Decision-Making during Critical Incidents" provides valuable insight on police officers' mindset and training.[56] Junger's thesis provides a detailed analysis of police training programs to include the effects of these training programs have on officers' attitude development and policing behaviors. Additionally, Junger defines and analyzes the mental condition of hypervigilance and the paradox between the ways this term is perceived within the context of law enforcement and within the academic community. This area of study is relevant to this thesis in that it assists in providing detailed descriptions of the methods used in basic law enforcement training programs, which serve as the foundation for the development of officer attitudes and behaviors.

A 2015 master's thesis by NPS graduate Matthew D. Hanley entitled "Killing Barney Fife: Law Enforcement's Socially Constructed Perception of Violence and Its Influence on Police Militarization" provides relevant analysis of how police officers view and interact with the world around them by utilizing the framework of social identity theory (SIT).[57] Hanley applies the SIT framework to law enforcement and describes the robust categorization process present in police social groups. Hanley's findings are relevant to

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[55] Giacomo Sacca, "Not Just Another Piece of Equipment: An Analysis for Police Body-Worn Camera Policy Decisions (master's thesis, Naval Postgraduate School, 2017), http://hdl.handle.net/10945/56797.

[56] Paul M. Junger, "The Effects of Hypervigilance on Decision-Making during Critical Incidents" (master's thesis, Naval Postgraduate School, 2018), https://calhoun.nps.edu/handle/10945/60416.

[57] Matthew D. Hanley, "Killing Barney Fife: Law Enforcement's Socially Constructed Perception of Violence and Its Influence on Police Militarization" (master's thesis, Naval Postgraduate School, 2015).

this thesis by demonstrating the strength of the law enforcement social identity and its effect on police officers' attitudes and behaviors.

3. Social Identity Theory

The textbook *Social Identity and Intergroup Relations* by Henri Tajfel provides relevant foundational information regarding SIT and its components.[58] As the originator of SIT, Tajfel provides a detailed description of how a group's social identity is developed, how individuals become part of a group, and how in-group and out-group narratives are developed. SIT is used throughout research fields to analyze group dynamics' formation and interaction and serves as a framework of analysis for police officers, to better understand their group narratives and thought processes.

In addition to Tajfel academics, like Brannan, Darken, and Strindberg used SIT as a sociological framework of analysis for terrorist organizations in their 2014 textbook *A Practitioner's Way Forward.*[59] Brannan et al. provide a detailed analysis of group dynamics through the use of SIT to analyze terrorism; however, the dynamics of SIT translate to the analysis of other groups as well.[60] This text provides insight into how group members relate to one another and how inter-group relationships and conflicts influence group members' emotional attachment to the group. These concepts are used in the analysis of police officers as a social group and to explain the dynamics of their intergroup and intragroup relationships in relation to the research question.

4. Social Exchange Theory

Scholar Richard Emerson describes the social exchange theory (SET) as a frame of reference to describe the social behaviors of human beings originating from the perspective

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[58] Henri Tajfel, ed., *Social Identity and Intergroup Relations*, European Studies in Social Psychology, v. 7, Cambridge: Cambridge University Press, 2010.

[59] David W. Brannan, Kristin M. Darken, and Anders Strindberg, *A Practitioner's Way Forward: Terrorism Analysis* (Salinas, CA: Agile Press, 2014), 53.

[60] Brannan et al., 55.

that rewards are sought out and punishments are avoided.[61] SET is used as a frame of analysis to describe the intergroup relationships between police officers, their managers and supervisors, and the public. In a 2018 study titled "Applying Social Exchange Theory to Police Deviance: Exploring Self-Protective Behaviors Among Police Officers," Helfers, Reynolds, and Maskály use SET to explain police officers' perception of organizational support (POS) and fairness influences their policing behaviors.[62] The authors found that in keeping with other SET research, police officers' use of self-protective behaviors is related to their POS and how they are treated by their department, supervisors, and the public.[63] This area of research is relevant to this thesis because it uses SET to provide a logical explanation for changes in officer attitudes and behaviors as a result of a change in their POS. The implementation of BWC programs can serve as a catalyst for changes in POS and thus trigger changes in officer attitudes and behaviors.

E. RESEARCH DESIGN

This thesis is intended to provide a state of the field perspective on BWCs and how this technology has affected officers' attitudes and behaviors toward their professional responsibilities. It uses a qualitative approach employing a thematic analysis design strategy using all the relevant BWC studies as the dataset. For an existing study to qualify for thematic analysis, the researcher would have captured data on officer attitudes, behavior, or productivity before or after BWC deployment. Data collected in those studies is analyzed to identify recurring themes directly related to the research question, which show how BWC-influenced attitudes and beliefs of police officers correlate with their level of public engagement and productivity. Scholarly research studies, which capture data specific to officer attitudes, behaviors, productivity, and perceptions concerning BWC deployment, will be included within the thematic analysis. All of the relevant studies are

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[61] Richard M. Emerson, "Social Exchange Theory," *Annual Review of Sociology* (1976): 335–62, http://www.jstor.org/stable/2946096.

[62] Richard C. Helfers, Paul D. Reynolds, and Jon Maskály, "Applying Social Exchange Theory to Police Deviance: Exploring Self-Protective Behaviors among Police Officers," *Criminal Justice Review*, September 4, 2018, 1–21, https://doi.org/10.1177/0734016818796547.

[63] Helfers et al., 1–21.

considered, regardless of whether it supports the hypothesis that BWC technology might be indirectly leading to attitude-induced reductions in productivity.

- The thematic analysis approach to this research allows data from multiple open-source research studies on BWC technology to be analyzed to identify recurring themes within the context of BWC-influenced changes in police officers' attitudes. The thematic analytical method employed in this thesis is a variation of the method developed and detailed by Nowell et al. in their 2017 paper titled "Thematic Analysis: Striving to Meet the Trustworthiness Criteria."[64] The authors provide a six-phase thematic analysis process as a means of establishing the trustworthiness of the analysis. Nowell et al.'s six-phase thematic analysis model comprise: [65]Phase 1: Dataset Identification and Familiarization
- Phase 2: Initial Code Generation
- Phase 3: Theme Exploration
- Phase 4: Theme Review
- Phase 5: Theme Definition and Designation
- Phase 6: Thematic Analysis Report Production

In Phase 1 of the thematic analysis, scholarly studies focusing on BWC–technology-influenced changes in officers' attitudes and behaviors are identified and thoroughly reviewed. Published surveys, technology reports, and news articles focusing on BWC technology and officer and public perceptions of it are also identified and reviewed. Phase 2 employs a qualitative coding process in which ideas and theories developed from phase 1 are categorized based upon their qualitative richness in relation to the research

64 Lorelli S. Nowell et al., "Thematic Analysis: Striving to Meet the Trustworthiness Criteria," *International Journal of Qualitative Methods* 16, no. 1 (December 2017): 1–13, https://doi.org/10.1177/1609406917733847.

65 Nowell et al., 4.

question.[66] An example of a possible code might be data from scholarly studies that show changes in an officers' level of community engagement or productivity. However, specific codes can only be identified and categorized as part of the multi-phase qualitative analysis.

Phase 3 of the process uses the coded and collated data from phase 2 and places these coded pieces of extracted data into themes. For this thesis, a theme is identified and generated based upon its ability to capture something significant and relevant to the research question.[67] Phase 4 consists of a thorough review of the coded themes to identify any patterns. Each individually identified theme is analyzed to determine whether it accurately reflects the dataset as a whole. Any previously coded themes that lack qualitative richness in relation to the research question, have substantial overlap with another identified code, or present a previously uncoded phenomenon, is re-coded accordingly.[68] This phase also evaluates the validity of the selected theme based upon the amount and quality of the dataset, which supports the theme. If the theme lacks supportive data or has significant overlap with another more richly supported theme, the original theme might be re-coded in order for the final theme to be more qualitatively rich.[69]

Phase 5 uses the themes identified in phase 4 and defines, develops, and details each theme and supporting data.[70] The identified themes provide the reader with a detailed definition of the theme, how it was developed, and how it is related to the research question. Phase 6 consists of the written analysis of the themes to provide logically based conclusions concerning the research question. Concise and coherent arguments are made based on the findings from the thematic analysis.[71]

The goal of this thesis is to provide a state-of-the-field perspective for the homeland security community as well as policy- and decision-makers so they may consider the effects

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[66] Nowell et al., 5.

[67] Nowell et al., 8.

[68] Nowell et al., 9.

[69] Nowell et al., 9.

[70] Nowell et al., 10.

[71] Nowell et al., 11.

of BWC upon officers' attitudes and behaviors, and consequently develop a set of realistic strategies for successful implementation of BWC programs. The qualitative thematic analysis approach is intended to provide the reader with a clearer picture of the complexities that may affect the implementation of BWC technology by police officers and how their attitudes toward the technology directly impact how they police. This approach provides the reader with a more holistic view of both the institutional, social, political, and human factors present within the policing profession and how those factors influence officers' attitudes and behaviors toward their duties as a result of the implementation of BWC technology.

The data sources employed for this study use open-source material derived from a detailed review of research studies published in scholarly journals, government reports, media accounts, officer/public surveys, and literature on BWC deployments worldwide.

The next chapter provides a basic overview of the components of a BWC system. It is important that readers have a basic understanding of the technological components of BWC. This foundational information provides a frame of reference to understand the complexity of BWC systems and an understanding as to how the systems and the videos they record impact officers' attitudes and ultimately, their work performance.

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II. TECHNOLOGY OVERVIEW

The BWC is a relatively new technology that is widely touted as being the ultimate accountability tool for an untrusting public to obtain unprecedented levels of transparency from law enforcement.[72] The availability of new, smaller camera technology and federal funding has led to almost one-third of all U.S. law enforcement agencies adopting BWCs in some capacity by late 2016.[73] This section explores this emerging technology and explains its various components and how they operate within a BWC system. Most police BWC systems are comprised of several components primarily categorized as hardware and software, and they require a storage method and retrieval mechanism for digital evidence (videos).[74] They are designed to be worn prominently on an officer's chest or head for optimal performance and capture of video.[75]

A. HARDWARE

The essential hardware components of most of the available BWC systems consist of a digital camera, battery pack, and digital video recorder; the orientation and configuration of these components vary greatly.[76] Some BWC systems are self-contained units, while others have a separate camera and battery pack linked by a wire.[77] The most popular and widely distributed BWCs are self-contained units, which have all the hardware components just mentioned contained within a single compact unit, about the size of a deck

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[72] Lindsey Miller and Jessica Toliver, *Implementing a Worn Camera Program and Lessons Learned* (Washington, DC: PERF & Office of Community Oriented Policing Services), 2014, 17–18, https://perf.memberclicks.net/assets/docs/Free_Online_Documents/Technology/implementing%20a%20body-worn%20camera%20program.pdf.

[73] Chavis," Body-worn Cameras," 987.

[74] "Body-Worn Camera Frequently Asked Questions," Bureau of Justice Assistance, 2015, 1, https://bja.ojp.gov/sites/g/files/xyckuh186/files/bwc/pdfs/BWC_FAQs.pdf.

[75] Bureau of Justice Assistance. 1.

[76] Vivian Hung, Steven Babin, and Jacqueline Coberly, *A Primer on Body Worn Camera Technologies* (Laurel, MD: Johns Hopkins University, November 2016), 10, https://www.ncjrs.gov/pdffiles1/nij/grants/250382.pdf.

[77] Hung et al., 10.

of cards.[78] One of these self-contained units manufactured by Axon Enterprises Inc. (Figure 1).

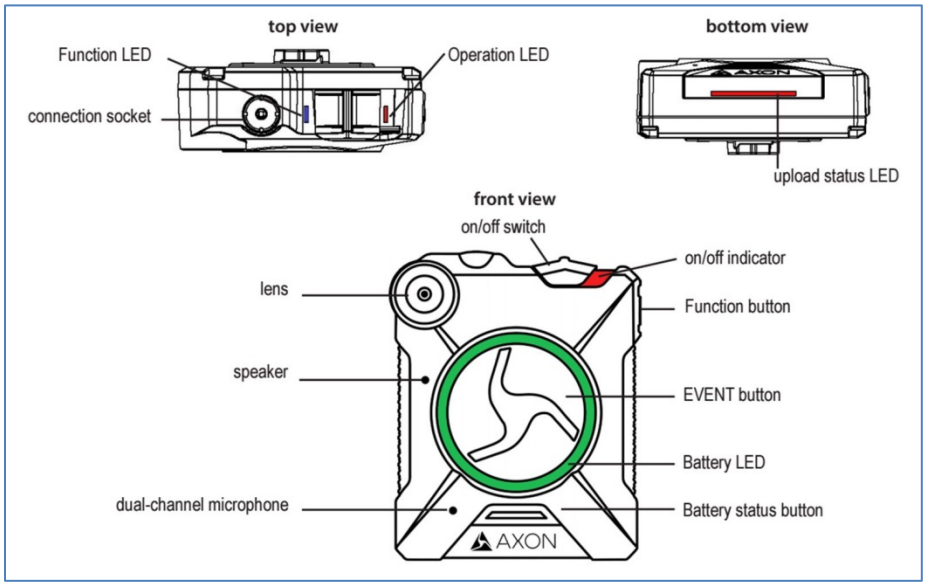

Figure 1. AXON Body 2[79]

The BWC is generally worn by an officer at or above chest height and is activated manually by the wearer in most cases, based on agency policies or applicable laws.[80] The officer wears the BWC for the duration of their shift and activates the camera based on policy guidance, or in the absence of policy directives, at their discretion. The officers wearing the BWCs then have to interface their camera with a computer, some via a docking station, in order to upload the videos from the device into the storage system.[81] Current innovations in BWC technology have seen efforts by manufacturers to achieve interconnectivity between the BWC and emergency equipment like vehicle lights and

78 Hung et al., 10-11.

79 "Axon Body 2," Axon Enterprises Inc, https://www.axon.com/products/body-2.

80 Hung et al., *BWC Primer*,10-11.

81 Hung et al., 10-11.

sirens to automatically activate the BWC when lights and sirens are turned on.[82] Automatic activation technology also has sensors that activate the BWC when an officer removes their firearm from the holster, runs, or says specific verbal commands.[83] The auto-triggering technology removes the need for individual officers to decide when or if they will activate the BWC in situations that might lead to a critical incident like a police shooting or pursuit. Detractors of the auto-triggering technology point out that officers are better served with developing the muscle memory to activate the BWC manually so not to become complacent and overly dependent on the auto-trigger and forget to activate cameras when required manually. The same detractors express concerns that the technology might activate the BWC in situations where it should not be activated.[84]

B. DOCKING STATIONS/CATEGORIZING SYSTEM

Most current BWC systems require an interface with a PC or self-contained docking and transfer station. This docking station serves multiple purposes, including recharging the internal battery pack and uploading the stored videos into the storage system. Additionally, most BWC systems do not automatically categorize the video or add storage and retrieval metadata. The Axon system shown in Figure 1 requires the BWC to have Bluetooth connectivity with either a stand-alone tablet or smart device via a downloaded application designed for categorizing videos for storage. In either case, stand-alone or application, the BWC is linked via Bluetooth to the categorization device and the user adds appropriate metadata for storage. An example of this might be the case number associated with an incident or the name of a complainant or arrestee.

C. SOFTWARE

In addition to the hardware components, most BWC systems include proprietary operating software and a mechanism to categorize, download, store, and access recorded

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[82] Elliot Harkavy, "In View: Body-Worn Camera Auto-Triggering Technologies," Body Worn Cameras Training and Technical Assistance, June 18, 2018. http://bwctta.com/resources/commentary/view-body-worn-camera-auto-triggering-technologies.

[83] Harkavy.

[84] Harkavy.

video for report writing, supervisory review, or court.[85] Since these recorded videos represent a form of digital evidence, the proprietary software used by many manufacturers has built-in safeguards to ensure the video downloaded from the BWC is preserved, unaltered, for future use in court proceedings.[86] This software ensures that the officer downloading the recorded video can only add metadata to the recorded video in the form of applicable agency case numbers, tags, or names of suspects. The hardware and software of the various BWC systems are just the tip of the technological iceberg because once an agency selects a system, it needs to develop a BWC policy and allocate personnel to manage the digital evidence.[87] These human components to the BWC system provide copies or access to the recorded video for court or public records requests, redact protected material from videos, and serve as the custodians of the digital evidence.[88]

D. STORAGE METHOD

Storing the data of a BWC system is frequently more costly than any of the initial hardware costs associated with these systems. For an agency selecting a BWC system, the method of storage, either internal server-based or cloud-based, is a decision that will dictate the recurring costs for the respective system in perpetuity. Some smaller agencies sometimes opt for maintaining stored videos on their internal servers and use standard operating system software to access videos as video files. This method requires agencies to create and maintain digital evidence safeguards internally to protect the integrity of the evidence for court. This type of storage places the responsibility of safeguarding digital evidence upon an agency and its information technology department. Additionally, this method requires more local agency support and more agency personnel to manage the system at the local level.[89]

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[85] Hung et al., *BWC Primer,* 35-36.

[86] Hung et al., 35-36.

[87] Hung et al., 35-36.

[88] Eugene P. Ramirez , "A Report on Body-Worn Cameras," Bureau of Justice Assistance, 2014, https://bja.ojp.gov/sites/g/files/xyckuh186/files/media/document/14-005_report_body_worn_cameras.pdf.

[89] Hung et al., *BWC Primer,* 13-14.

The second type of digital evidence storage is a cloud-based system where videos are uploaded to an offsite cloud-based server. All the files are stored offsite and accessible to designated agency personnel, 24 hours a day, via proprietary software. This type of storage places the primary responsibility of safeguarding digital evidence upon the cloud-based storage provider and provides the agency with the ability to limit access to digital evidence by establishing access guidelines for personnel and provides an audit trail to show who has accessed digital evidence and for what purpose. The cloud-based method has the potential to be costlier for an agency depending on its selected retention policies since costs are governed by the amount of storage space needed. Most agencies develop policies that mandate only videos with identified evidentiary value be stored long term. The advantage of this type of storage for many agencies is that the costs of establishing and maintaining the software, servers, and system security fall on the respective manufacturer or their cloud-based storage partner. There are also safeguards to prevent inadvertent or deliberate deletion of video evidence in these cloud-based systems[90]

An additional concern is the amount of storage available to an agency because video files can be quite large and require considerable storage space. This one concern drives many larger agencies to the cloud-based storage solution, as maintaining multiple servers to store the copious amounts of data becomes untenable at times. An example of this is the Oakland (California) Police Department, which has had a BWC program since 2010. Oakland Police Department was forced to switch from an internal server-based system to a cloud-based system to manage more than seven terabytes (one trillion bytes) of video data, which is uploaded every month.[91]

E. HUMAN COMPONENT

For most government agencies, the costs associated with employee wages and benefits comprise the bulk of their operational budgets. The establishment of a BWC

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[90] Tod Newcombe, "Body Worn Camera Data Storage: The Gorilla in the Room," Government Technology, September 9, 2015, http://www.govtech.com/dc/articles/body-worn-camera-data-storage-the-gorilla-in-the-room.html.

[91] Newcombe.

program requires the hiring or reallocation of personnel to manage the system and the videos stored by officers in the field. Additionally, agencies need to allocate personnel to review video, redact protected information from videos, and respond to court and public records requests for video evidence.[92] An often-overlooked aspect of deploying a new BWC system are personnel costs incurred from administrative time officers spend adding metadata to recorded videos for storage, retention, and retrieval.[93] This new administrative function is likely to take up a considerable amount of an officer's available time to patrol their areas of responsibility and should be a top consideration for an agency to select a storage solution that provides a user-friendly interface to label recorded content quickly.

F. TYPICAL COSTS

The costs of a BWC program will vary significantly based upon the size of the agency, the method of storage, capacity, size, and the number of cameras and docking stations. According to a recent three-part article, which appeared on the Government Technologies website, most cameras range in price from $300–$500 and docking stations, which hold up to six cameras, cost as much as $1000 each. The cost of cloud-based storage for some large agencies can be in the millions of dollars based on how many terabytes of storage are needed and how many cameras are in their system. An additional factor that influences overall costs are laws passed by state legislatures requiring storage of all videos for anywhere between sixty days to six months. The longer the storage requirements, the more expensive cloud-based storage will be for an agency.

G. PROBLEMS WITH IMPLEMENTATION

The BWC's potential to provide independent accountability of police personnel and transparency are widely regarded as some of its greatest strengths.[94] This potential to provide oversight of officers and their decisions in the field, via a review of recorded video, was one of the factors that many departments cited as essential to restoring transparency in

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[92] Newcombe.

[93] Newcombe.

[94] Ariel, "Police Body Cameras," 729.

the eyes of the public and the media. Many police officers and their unions also believe in the BWC's potential to restore public trust by recording field encounters to provide an independent piece of digital evidence to exonerate officers accused of wrongdoing and provide irrefutable proof for court.[95] The technology promised to provide a high-definition- (HD) quality video of police encounters and be an independent voice and digital witness for the weary public. It was this promise of HD quality that concerned many law enforcement advocates because there was a concern the camera resolution and quality would be better than the human eye. This potential led to many industry professionals demanding that camera quality be subdued to mimic the human eye to prevent the camera from recording something that the wearer would not have been able to see. An example of this would occur in low-light conditions where the human eye might not capture or perceive an event that a digital camera might. This could lead to a review of an incident utilizing video evidence of something the wearer would never have been able to see with their eyes at the time the video was recorded. The reality is that with as much promise as BWCs have, they also have limitations as to what they can and cannot deliver.

BWC's technological limitations are now being more widely reported, and many experts in the field are making a point to educate the public in BWC's limitations to recalibrate the public's expectations.[96] The reality is that this tool has limitations in not only the quality of the video but also the camera's field of view and the viewer's frame of reference.

H. THE BUSINESS OF BWC

BWCs is one of the fastest-growing industries representing hundreds of millions of dollars to BWC manufacturers and cloud-based storage companies. There are few better examples for demonstrating the growth of BWC than that of Taser International, whose primary business model for almost 20 years was the development and sale of its Taser line

[95] Julie Bosman, Mitch Smith, and Michael Wines, "Jurors Find Video Isn't Providing 20/20 Vision in Police Shootings," *New York Times* June 25, 2017, https://www.nytimes.com/2017/06/25/us/police-shootings-trials-video-body-cam.html.

[96] Bosman et al.

of less-lethal conducted electrical weapons to the law enforcement industry.[97] Taser International entered the BWC industry in 2008 with the introduction of its Axon line of BWCs and its evidence management system, Evidence.com.[98] Taser's foray into BWC technology has been so successful and lucrative that in April 2017, the company changed its name to Axon Enterprises Inc. and made the Taser-brand less-lethal weapons a line of business within its portfolio.[99] Axon Enterprises is currently the largest BWC manufacturer in the industry with the largest market share, having acquired its competitor, VieVue, in 2018.[100] As of the time of this writing, Axon Enterprises reported that their expected revenues for 2018 are anticipated to be 16% to 18% higher than 2017, with projected revenue in excess of $400 million.[101]

Now that the reader has developed a familiarization with the components of a BWC system and the current state of the industry, the following chapter highlights the human component of BWC systems: the officers themselves. In order to better understand police officers, their attitudes, perceptions, and mindset, the next chapter provides an in-depth overview of police training and the socialization process that transitions people from civilians into police officers. It is through this training that officers develop their police social identity as well as their attitudes and policing behaviors.

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97 "Taser Changes Name to Axon in Shift to Software Services," Reuters, April 5, 2017. https://www.reuters.com/article/us-usa-taser-idUSKBN177265.

98 "Axon, Formerly Taser, Completes $246M Follow-on Offering, Reports Q2 Revenue Bump," *Phoenix Business Journal*, https://www.bizjournals.com/phoenix/news/2018/08/07/axon-completes-246-million-follow-on-offering.amp.html.

99 Reuters, "Taser Changes Its Name."

100 *Phoenix Business Journal*, "Axon Q2 Revenue Bump."

101 Carl Surran, "Axon Enterprises +16% after Big Q4 Beat, Upside 2018 Revenue Guidance," Seeking Alpha, February 27, 2018, https://seekingalpha.com/news/3334908-axon-enterprises-plus-16-percent-big-q4-beat-upside-2018-revenue-guidance.

III. HUMAN FACTORS

A. TRAINING AND MINDSET DEVELOPMENT

Understanding how police officers develop their foundational attitudes and beliefs is essential to understanding how the introduction of BWC technology influences those attitudes and beliefs. The law enforcement industry takes regular civilians and places them in a group setting to participate in standardized training to become certified and licensed to be officers. Those newly minted officers then enter a field training regimen where they are schooled on their profession by training officers and supervisors using tacit learning and experience in the field to shape their recruits' policing personas. As new recruits go through this process, they obtain acceptance to the new social group represented by their fellow officers and police agency. Understanding this dynamic process is necessary to understand officer attitude development and policing culture, which are important factors related to the research question. This chapter serves to highlight those core training elements that synthesize to establish law enforcement officers' attitudes, behaviors, and mindset.

1. Basic Recruit Training

Law enforcement training begins at the basic-recruit level when a new police trainee enters the police academy to become an officer. Each of the individuals entering a new police training program is unique, with their individual upbringing, experiences, education, and outlook on life as their starting point. It is through the training received in the police academy that these individuals are molded into police officers and begin to develop a completely different perspective on their environment. Preparing motivated adults to embark on a career in law enforcement is primarily conducted in a classroom setting, utilizing explicit formal teaching practices that are measured through obtaining passing grades on exams. Additionally, trainees demonstrate their proficiency in tests of physical skills, shooting, driving, and other areas of instruction.

According to Glenn et al., training provides the foundation for how police officers perform their duties and pursue their careers.[102] The authors observe that it provides the basic frame of reference for law enforcement professionalism and decision-making, especially critical incident decision-making. They add that training shapes officers' attitudes and behaviors toward the performance of their duties and sets their path for the future of their entire careers.

Academy training programs vary from state to state; however, several aspects of these training programs share similarities and training philosophies. All these training programs have a certain number of training hours required for each trainee in order to obtain certification. An example of this would be Florida's 770 hours, which is the Florida Department of Law Enforcement, Criminal Justice Standards and Training Commission, (FDLE) (CJSTC) basic recruit training program.[103] The FDLE CJSTC training program is broken down into two volumes of study. Volume 1 is Basic Law Enforcement, which consists of 12 individual chapters and 454 hours of training. Volume 2 of this training program consists of six chapters and 316 hours of total training. Specialization focuses on what the CJSTC designates as high-liability training areas: vehicle operations, first aid, firearms, defensive tactics, dart-firing stun gun, and officer physical fitness.

A large percentage of this training emphasizes teaching the basic recruit the survival skills necessary in the event they are involved in a critical incident or deadly force confrontation. Those high-liability skills are primarily physical skills involving the use of firearms, less-lethal weapons like Tasers, and other defensive tactics techniques; a theme of all high-liability training is the development of a survival mindset in the trainee.[104] Police departments hire idealistic young people who are systematically trained to distrust everyone they encounter in order to provide them with the greatest probability of survival. This is a necessary aspect of training to prepare the new officers to survive in the field and

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[102] Russell W. Glenn, Barbara Raymond, Dionne Barnes-Proby, Elizabeth Williams, John Christian, Matthew W. Lewis, Scott Gerwehr, and David Brannan. "Training the 21st Century Police Officer." Product Page, 2003. https://www.rand.org/pubs/monograph_reports/MR1745.html.

[103] "Florida Law Enforcement Academy (Version 2018.7) #2000," Florida Department of Law Enforcement, July 2018. http://www.fdle.state.fl.us/CJSTC/Curriculum/active-courses/2000.aspx.

[104] Florida Department of Law Enforcement.

is presented with significant emphasis to the trainees throughout the 360 high-liability training hours; police officers must survive.

According to Junger, training for police officers seeks to condition them to operate in a heightened state of awareness, referred to as hypervigilance.[105] This hypervigilant conditioning through training teaches recruits to be cognizant of all potential threats to their safety and security and serves as the framework of their mindset.[106] The basic skills police recruits are given to deal with these types of potential threats are primarily the physical- and use-of-force–related skills previously detailed in this thesis.

This stage of training shapes the new recruit's base policing attitude, and the socialization process begins with the class of recruits bonding together through the shared experiences in the academy.

This chapter also includes vignettes to provide the reader with story-based examples of the concepts discussed. These vignettes follow the journey of several fictionalized characters: one entering the police academy and embarking on a career in law enforcement and others that the recruit encounters early in their career. The story follows James Matthews, the fictional character, as he leaves the police academy and begins to assimilate within the law enforcement culture. To assist the reader in clearly identifying the vignettes, they are shown in italics. These vignettes are fictionalized depictions of the types of officer sentiments expressed in various surveys conducted during research studies, which is covered in detail later. Although they are fictionalized accounts, the subject matter and character perspectives are consistent with feelings, attitudes, and behaviors expressed by officers in research studies. These stories represent a small segment of some of the sentiments expressed by officers about their profession and BWCs in surveys; however, they do not necessarily represent the views of the author and are not intended to influence the reader regarding the efficacy of BWC technology. The stories are intended as practical illustrations of the dynamics and nuances involved in officers' attitude development and expressed beliefs on BWC.

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[105] Junger, "Hypervigilance."

[106] Junger.

2. Vignette: A Law Enforcement Journey

The training advisor (TA) stood before the assembled group of new trainees. He spoke in a firm and authoritative tone telling every member of the new Police Academy class how the training they were about to receive throughout the next six months would change their life forever. Police officer trainee #14, James Matthews, was a 21-year-old, recent college graduate who dreamt of becoming a police officer since he was a child. The TA instructed the class to look around at one another. He matter-of-factly told them that from every Academy class, 20% would never graduate. Another 10% of those who did graduate would not survive their career to retire; their career paths cut short by misconduct, misfeasance, or mistakes that cost them their livelihood or lives.

The TA continued to address the class, advising them that policing is among the noblest, honorable, and difficult professions to survive in. As police officers, they will operate under constant threat to their personal safety and intense amounts of scrutiny from both within and outside of their organization. He went on to describe it as a "25-year pressure cooker" that if they were lucky enough to survive, they could look forward to dying 20 years before people who worked in other professions. As trainee Matthews listened to the speech, he knew the statistics the training advisor was referencing were all accurate as he had studied them at the university. At the end of the speech, the TA asked the class, "So who wishes they took the job at Google?" So commenced the career path of Police Officer Trainee James Matthews and the next six months of training to prepare him and his class to survive as police officers…

3. Field Training

The usual next step for newly trained police officers is to begin some iteration of field training within the agency they work. The format and duration of this field training vary from agency to agency; however, many police departments within the United States follow what has been widely referred to as the San Jose Field Training Model.[107] The San Jose Model is the industry standard for field training programs as it was the first-ever

[107] "Field Training and Evaluation Program—Purpose and Description," San Jose Police Department, accessed January 14, 2019, http://www.sjpd.org/bfo/fieldtraining/.

standardized program and served as the national model for field training.[108] This period of training can last from 12–16 weeks.[109] During the field training component, the Probationary Police Officer (PPO) rides along with a Field Training Officer (FTO) performing uniform patrol activities.[110] The FTO/PPO team handles calls for service and responds to emergencies as the FTO evaluates the trainee's performance and provides daily reports.

The primary method of instruction at this stage transitions from the explicit or formal method used in the classroom to a more implicit method. This implicit learning takes place through experience with the FTO acting as a conduit to impart knowledge to the trainee.[111] The knowledge obtained through this implicit method of teaching is often referred to as "tacit knowledge."[112] Tacit learning occurs through an informal process where the new police trainee begins to acquire knowledge through experience and develops expertise in their field.[113] The trainee is placed in real-world situations where they must apply the classroom knowledge to solve the problems they encounter. This is at the core of many field training programs to see if the trainee can perform effectively as a police officer.[114]

A recurring aspect of all police training, both in the classroom and field, is officer survival skills. The explicit and implicit knowledge given in the academy and field training continually prepares the trainee mentally and physically to survive. According to the latest *California Peace Officers Standards and Training (POST) Field Training Program Guide*,

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[108] Michael McCampbell. "Field Training for Police Officers: The State of the Art." National Institute of Justice, April 1987, https://www.ncjrs.gov/pdffiles1/nij/105574.pdf.

[109] McCampbell.

[110] San Jose Police Department, "Field Training and Evaluation Program."

[111] San Jose Police Department.

[112] Teresa Z. Taylor, Beatrice I.J.M Van der Heijden, and Matthew C. Genuchi. "The Police Officer Tacit Knowledge Inventory (POTKI): Towards Determining Underlying Structure and Applicability as a Recruit Screening Tool: POTKI Structure and Applicability," *Applied Cognitive Psychology* 31, no. 2 (March 2017): 236–46. https://doi.org/10.1002/acp.3321.

[113] Taylor et al., 2.

[114] McCampbell, "Field Training for Police Officers."

during field training, trainees are evaluated daily in areas like officer safety, use of force, tactical communication/conflict resolution, control of persons/prisoners/mentally ill.[115] Under the category of officer safety, trainees are evaluated in no less than 20 individual safety-related actions, which police officers are expected to perform almost daily. A trainee can receive a negative evaluation for failing to keep their firearm away from a suspect or failing to anticipate a dangerous situation.[116] Beyond receiving an unsatisfactory mark on an evaluation, trainees are taught that an officer safety violation can result in their death or the death of another officer or civilian. A simple lapse in concentration at the wrong time can cost the trainee, the FTO, or an innocent civilian their life. At every phase of training, the new officer is taught to maintain that hypervigilant survival mindset and be prepared to respond to any potential threat.[117]

The new officers are taught to diligently observe the minutest details of their environment and look for anomalies, which could be indicative of potential danger. This facilitates the development of detail-oriented observation and strong tacit learning abilities.

4. Vignette: The New Rookie

PPO James Matthews sat in the front row of the roll call room, along with the other brand-new officers joining the department. As he sat in the designated rookie section of the room, his mind began to wander to his training and experiences in the Academy. Although it had been several weeks since he graduated and passed the certification exam, he spent his initial time with the Sparrow Police Department (SPD) being trained in the department's internal policies and procedures. Matthews and the other four rookies were now ready to begin the next 16 weeks of field training assigned to a FTO.

As his mind continued to wander, the kick under the table and the booming voice in his ear got his attention. "Snap out of it, rookie; this is for you too!" exclaimed Sgt.

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115 California Commission on Peace Officer Standards and Training, *Field Training Program Guide*, Vol. 1, POST.BTB.2003-01.V2 (Sacramento, 2014), https://post.ca.gov/portals/0/post_docs/publications/field-training-program/FTP/FTP-Vol1.pdf.

116 California Commission on Peace Officer Standards and Training, A.1-7.

117 Junger, "Hypervigilance."

Westerfeld. The sergeant stood before the group of rookies, his large 6+ foot frame hulking over the group of young officers. Matthews looked at the rows of ribbons on the sergeant's chest above his name tag. As his eyes focused, he noticed the writing underneath the sergeant's name read "Serving Since 1990." He thought, Wow, this guy has been a cop since before I was alive. *"148!" shouted Westerfeld. "That is the number every one of you rookies needs to remember. That is how many police officers died in the line of duty last year. As Westerfeld pointed to the sign on the wall that read "Everyone goes home at the end of their shift," he told the rookies their mission for the rest of their careers is NOT EVER to be a number on that list. Matthews gulped and felt the color flushing to his face in embarrassment as the sergeant pointed at him and told him he better get his head in the game or it would be game over. The sergeant continued to lay into Matthews, "There is no room for daydreaming on the road, rookie. You get caught distracted, and some gangbanger is gonna punch your ticket!"*

Westerfeld pointed to the back of the room and addressed a person Matthews could not see. "This daydreamer is going to be assigned to you, Terminator. Maybe you can get his head out of the clouds long enough to stay alive." When Matthews heard the name, he knew to whom the sergeant was speaking: FTO Shae Sanders, also known as "the Terminator" for the number of PPOs she had washed out of the program and terminated from the department. Westerfeld looked at Matthews and said, "If you can survive her, you might have a chance to stay alive on the street." Westerfeld ended his briefing by reminding them that the bad guys on the street would not show them mercy if they were distracted. FTO Sanders walked to the front of the table and told Matthews to sign out a car and meet her in the parking lot for inspection …

5. Warrior Mindset

Through intense training and experiential tacit learning, many new police officers begin to develop what Professor Seth Staunton has called the "warrior mindset."[118] This warrior worldview can be instrumental in giving the officer an advantage in a life or death

[118] Seth Stoughton, "Law Enforcement's 'Warrior' Problem," *Harvard Law Review* 128 (April 10, 2015): 10, 227, https://harvardlawreview.org/2015/04/law-enforcements-warrior-problem/.

struggle to survive; however, those situations are quite rare.[119] In reality, most police officers never end up in deadly force encounters and their day-to-day experiences primarily consist of interaction with the general public and not hardened criminals trying to take their life. Staunton points out that hypervigilance provides the officers with the best opportunity to survive, as their training has prepared them to perceive every person and every situation as a potential threat to their life.[120] However, since most situations officers are involved in are not life-and-death struggles, the warrior mindset can create an unrealistic perception of others by the officer in ordinary or routine situations.[121] Officers with a well-developed warrior mindset approach all of their duties from a perspective that every individual they encounter might engage them in mortal combat.[122] Staunton describes the warrior mindset as "a bone-deep commitment to survive a bad situation no matter the odds or difficulty, to not give up even when it is mentally and physically easier to do so."[123] This hypervigilant warrior-mindset creates within an officer the perception that any resistance to their authority by a citizen is potentially a threat to their safety, requiring they take action to thwart the potential threat.[124] According to Stoughton, it is this skewed perception that leads to many instances in which officers use force in situations where they had other options.

It is the hypervigilance-driven warrior mindset that serves as the foundation for attitude formation for a great many police officers. This mindset becomes further entrenched through experience and can be a source for the development of cynicism, skepticism, and distrust of those who are not police officers, including friends and family.[125]

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[119] Stoughton, 230.

[120] Stoughton, 228.

[121] Stoughton, 228.

[122] Stoughton, 227.

[123] Stoughton, 226.

[124] Stoughton, 227.

[125] Kevin M. Gilmartin, *Emotional Survival for Law Enforcement: A Guide for Officers and Their Families* (Tucson: E-S Press), 24.

This hypervigilant mindset does not only apply to how the officer views the public; it can also influence how an officer views and receives organizational changes and reforms.[126] Organizational changes, like BWC programs, viewed through this hypervigilant frame of reference can be perceived as potential sources of harm to the officers' career or livelihood, triggering a self-protective response.

6. Vignette: Two Weeks Later

As Sanders and Matthews walked out of the roll call room, Westerfeld called them back. "Sanders, make sure you and the rookie report to the training room to get issued your new body-worn cameras," ordered Westerfeld. "You're kidding, right?" asked Sanders. "I wish I was," replied Westerfeld. "Apparently the department has decided to begin a BWC pilot project and FTOs will be the first to field them. I have to pick mine up at the afternoon training session. Is that a problem?" asked Westerfeld. "No sir, not a problem but maybe a complication," replied Sanders. "Who gets to sit in the chair watching videos to decide if we know how to do our job—cop-hating bloggers, lawyers, reporters, politicians, or desk jockeys who haven't see the street in twenty years?" "Can't answer that one Shae," replied the sergeant. Westerfeld held his hand up and said, "Not in front of the rookie, Shae." Sanders looked over toward the door and told Matthews to head to the training room and she would meet him there.

As the rookie walked out, Officer Bob Suarez sauntered over and joined the conversation. Suarez, a tall, middle-aged, overweight man, blurted, "I've got two years left till I get my pension and I'm not getting jammed up by a camera at this point in the game." "So, what are you saying, Bob?" asked Sanders. "I'm sayin' I'm going to be the best fireman with a gun this department has ever seen. My fire station is my patrol car parked in a shady spot in the park. I ain't leavin' that spot except to handle calls from dispatch or nature." Sanders replied, "So you're retired on duty, Bob?" "Not retired Shae, surviving. Remember what I taught you when you were my rookie, surviving in this business has many levels and it's more than just physical." …

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[126] Gilmartin, 81.

7. The Police Identity

When a police officer graduates from the academy and commences field training, they are simultaneously developing their police identity—the way they see themselves in relation to others.[127] For police officers, working in law enforcement is not just a profession; it also represents membership in a social group. Throughout their training and field learning, the new officers seek acceptance from the law enforcement social group by demonstrating their ability to perform their police duties. The new officer works to attain acceptance into the group through the completion of the academy and field training. As the new officer grows in experiences and develops skills in their new field, bonding with colleagues and coworkers begins to take place. They become accepted as part of the tightly knit social group within a police department and a new social identity begins to emerge as well.

a. Social Identity Theory

SIT, as introduced by Henri Tajfel, teaches us that social identity is "that part of an individual's self-concept which derives from his knowledge of his membership in a social group (or groups) together with the value and emotional significance attached to that membership."[128] According to Tajfel, there are three components that create an individual's self-concept of belonging to a group: cognitive, evaluative, and emotional.[129] This holds true regardless of what the group consists of as long as the members of the group have these three components.[130] When applied to police officers, the cognitive component becomes officers' awareness of being police officers. The evaluative component is the positive or negative connotation that comes with being police officers. Finally, the emotional component for officers may consist of pride and respect garnered from group membership.

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[127] Brannan et al., *Practitioner's Way Forward,* 66.

[128] Henri Tajfel, "Social Categorization, Social Identity and Social Comparison," in *Differentiation between Social Groups: Studies in the Social Psychology of Intergroup Relations*, ed. Henri Tajfel (London: Academic Press, 1978), 72.

[129] Brannan et al., *A Practitioner's Way Forward*, 53.

[130] Brannan et al., 53.

Law enforcement is not only a profession but also a social group unified through professional training, tacit learning, collective experiences, and a shared frame of reference of the world. For young police officers, attaining the acceptance of their peers is both emotionally significant and valuable. For veteran officers, continued acceptance within the group requires officers to follow group norms and maintain acceptable behaviors. Young officers must demonstrate through performance their value to the social group by demonstrating proficiency and loyalty to their peers and profession. It is for these reasons that SIT provides a relevant framework of analysis for exploring the mechanisms of attitude development and behavior of police officers.

As both a professional and a social group, law enforcement places an enormous value on the foundational tenet of survival. Physical survival of the individual officer and that of officers within the social group becomes the primary directive of every member of the group and in turn, a prerequisite for acceptance. For this reason, officers with poor officer safety skills, which could compromise their survival or the survival of others, are often excluded from full acceptance of their law enforcement social group. Police officers as a social group succeed in establishing strong social identities by clearly delineating separate and distinct differences between police officers and civilians.[131] The strong social identity the group provides requires its members to adhere to the group norms as a prerequisite for continued acceptance. Survival as a tenet of the police officer's social identity is not limited to just physical survival. Members of the social group are taught that their survival requires constant vigilance in order to reach retirement.

For law enforcement officers, the primary in-group consists of fellow sworn police officers of various ranks, assignments, and positions. Within this primary in-group, there are additional sub in-groups that are categorized based upon variances like assignment, area of responsibility, and supervisory authority. Examples of these sub in-groups would be uniform patrol officers and detectives with different assignments and responsibilities. These two sub in-groups may view each other by the in-group narratives of the sub in-group to which they belong; however, when challenged by a clear out-group like civilians,

[131] Hanley, "Killing Barney Fife," 82.

politicians, defense attorneys, and the media the sub in-groups merge into the primary in-group to address the external challenge.

The in-group narratives taught to police officers include survival on multiple levels: physical, criminal, administrative, civil, and emotional. Many non–police officers can easily understand physical survival, but the other levels of survival require some explanation. An erroneous decision by an officer in the field can lead to that officer being charged with a crime, sued civilly, administratively sanctioned by the department, and emotionally scarred from the consequences of the decision. An officer's decision to use deadly force may be investigated and found justified under the criminal laws and unjustified administratively in an internal investigation or civilly in a lawsuit. That deadly force decision made in a split second may be investigated on all the levels and found justified, yet the officer cannot cope with consequences emotionally and might suffer from posttraumatic stress disorder or engage in self-destructive behaviors.[132]

What SIT provides is an explanation for how some officers might respond to a survival threat from an out-group in the form of a technological advancement intended to reform the profession through enhanced oversight capability, like BWCs. The proliferation of BWC technology, widely touted as a mechanism to achieve heightened officer accountability and transparency, might be perceived by the police officer in-group as a form of honor challenge. Since many police departments throughout the country mandate BWCs, officers cannot choose whether they will wear the camera, as it is a requirement of their job. In many departments throughout the country, failure to wear the camera correctly or to activate and deactivate the BWC per policy is grounds for disciplinary action and administrative sanctions.[133] The mandate for compliance and the potential for disciplinary action for non-compliance leave many officers with two choices: deploy the BWC and perform your duties in the same manner as before or deploy the BWC and engage in self-

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[132] Gilmartin, *Emotional Survival*, 33–46.

[133] Michael D. White, Michaela Flippin, and Charles M Katz, *Key Trends in Body-Worn Camera Policy and Practice* (Washington, DC: Body Worn Camera Training and Technical Assistance), 2015, 13–14. https://www.bwctta.com/sites/default/files/BWC%20Policy%20Analysis%20-%203rd%20edition%20FINAL.pdf.

protective behaviors to avoid negative consequences arising from mistakes. It is worth noting that the choices are not black-and-white and there are nuances between deploy and perform as before and deploy and self-protect, which fluctuate depending on the circumstances officers are encountering within their department and communities they serve.

When one applies the concepts of SIT as a framework of analysis for understanding the mechanism of development of officers' attitudes and behaviors, several factors become evident. Reforms or other changes in working conditions like BWCs, which are primarily implemented by an out-group, may be perceived as a threat to the safety position, assignment, or employment of the in-group.[134] In the majority of instances seen thus far, BWC technology has been instituted based on demands from out-groups like the public, activists, and the media. SIT provides an explanation for how some officers can perceive the implementation of BWCs as an unfair change in working conditions imposed upon them from an out-group leading to the development of a negative change in attitude or behavior.

8. Vignette: On Patrol with BWC

As FTO Sanders and PPO Matthews patrolled an area of the city notorious for high crime and gang activity, Sanders pointed to a group of high-school–aged males standing on a corner and asked the rookie, "Look at that group of guys and tell me what you see." Caught off guard by the Sanders' question, Matthews did his best to point out how the group of males was dressed, wearing baggy clothes, could conceal weapons and the clothing had similar colors. "Is that it? Do you think we have probable cause to stop those people?" asked Sanders. Matthews said he was not sure they had sufficient probable cause to stop them. Sanders said, "I am going to explain to you what I see from my experience and why we not only have probable cause to stop them but a duty to. Turn on your BWC so we get this on the record before we stop these guys."

134 Brannan et al., *A Practitioner's Way Forward*, 57.

Sanders waited for both their cameras to be activated and began to explain to Matthews how the group of "gang-aged" males was standing on the corner, apparently loitering and wearing clothing and colors associated with a known gang from across town. The males were in the documented geographic territory of a rival gang and their mere presence in the area, dressed in the style and colors they were wearing, could be interpreted by local gang members as a sign of hostile intent or disrespect triggering a violent attack. Saunders continued, "In other words, they are either rival gang members looking for a fight, or they are unsuspecting kids about to walk into a war zone wearing the enemy's uniform. By stopping them, finding out who they are and warning them, if they are not gang members, we are preventing a violent crime. If they are rivals looking for trouble, we are stopping them before they commit an offense. Either way, we have probable cause to detain and investigate. Let dispatch know, request backup and we will watch them while we wait for the other unit." As backup arrived, the suspicious group of males was stopped and questioned. The investigation found they were a lost group of siblings looking for their aunt's home and were not aware of the danger they were in from local gang members. The encounter was captured on BWC and ended without incident with the officers escorting the group to their aunt's home.

B. SUMMARY OF HUMAN FACTORS

The topics highlighted within this section combine to demonstrate the starting point and foundation of police officers' attitude formation and worldview. Through the synthesis of basic recruit training, field training, tacit knowledge derived from experience, and the development of the warrior worldview and law enforcement social identity, police officers establish their point of reference to their law enforcement environment. It is from this starting point that officers shape their policing attitudes toward the public they serve and the style with which they police their community.

This law enforcement worldview serves as the starting point for a vast majority of police officers who are being tasked with incorporating BWC technology into their policing practices. If an officer views this technology from a negative perspective, then the officer has the discretionary ability to alter how they police by employing a discretionary

change in policing style. The change could be the use of a self-protective behavior like reduced enforcement or de-policing, or it might be an increase in traffic enforcement activity. The type and extent of altered policing practices, reduced engagement, or self-protective behaviors and their impact on crime and the fear of crime are aspects of BWC deployments that have not been sufficiently studied and would be beneficial to the industry as a focus for future research. By understanding the nuances involved in base officer attitude formation and the internal and external complexities in play—both socially and politically, during the implementation of BWC programs—policymakers within the homeland security enterprise are better positioned to anticipate, identify, and mitigate behaviors that might impair quality policing practices.

The following section uses the foundational components of BWC systems and the human factors previously discussed to identify themes in existing BWC research. The thematic analysis provides insight into how officers' attitudes and perceptions are impacted by BWCs as well as how those changes affect policing behaviors. The understanding of how officers are trained to question and be suspicious of everyone they encounter professionally as a potential threat is at the core of their attitude formation and behaviors. The following section takes an in-depth look at available data to see how officers' attitudes are being impacted by BWCs.

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IV. THEMATIC ANALYSIS

Phase 1 of the thematic analysis commenced with the initiation of research into the topic of BWC technology, police officers' attitudes, behaviors, and perceptions. All relevant research studies related to BWC-influenced officer attitude formation and behaviors were queried utilizing online search engines like Google Scholar and the NPS Dudley Knox Library Database. BWC implementation studies and any research that focused on how this emerging technology affects officers' attitudes and behavior was reviewed. In addition to the scholarly research, surveys, news articles and government reports were also reviewed and evaluated for their relevancy to the research question. In all, more than 350 separate items of data were identified, reviewed, and included within the scope of this analysis and the dataset familiarization process. During the dataset familiarization process, each potential data item was categorized utilizing the online research tool, Zotero, and thoroughly reviewed to establish relevancy to the research question. Once the particular data items were reviewed, any item containing relevant data to the research question was preserved in a separate folder within the Zotero online research library.

Data were reviewed for themes that provided insight on current levels of acceptance of BWC technology from individual officer perspectives by utilizing surveys collected directly from police officers as part of previous research as well as from published and non-published studies. Any surveys that conveyed officers' current attitudes and beliefs regarding their profession and/or BWC technology were deemed relevant and included regardless of whether the surveys reflected positive or negative feelings. This review also included an evaluation of studies that included data measuring officer productivity before and after the implementation of BWC programs. Any study that contained data meeting the aforementioned criteria was included as part of the analytical dataset for this project. Upon identifying relevant data, the individual research study containing the data was thoroughly reviewed and relevant material was identified and preserved in Zotero for future use. The data were evaluated holistically, and detailed notes were taken and preserved in a

separate notes document in order to thoroughly vet the data, allowing for the identification of new or previously unexplored theories related to the research question.

A. THEMATIC ANALYSIS OF OFFICER PERCEPTIONS

There were numerous items within the dataset containing survey results that directly captured officers' feelings, opinions, attitudes, and beliefs toward BWC. These various surveys represent the best available data to provide insights into how officers feel about their professions and BWC technology. The surveys included answers to specific questions on BWC technology and general questions seeking to obtain the officers' perspective on the current state of policing as well as their feelings of organizational and public support and safety.

For several months in 2016, the Pew Research Center conducted a nationwide survey of more than 8,000 police officers from departments having at least 100 sworn members to capture their perspectives of the state of the police profession.[135] Morin et al. also surveyed more than 4,500 civilians nationwide to capture their perspectives on the police. The surveys of both police and the public occurred simultaneously with the height of media coverage related to numerous high-profile incidents between police and members of the public. To date, this study is the most comprehensive, has the largest sample size, and offers the most compelling views of how a majority of officers feel about their profession and how the public feels about their police. Several themes emerged from the analysis.

According to Morin et al., statistically significant numbers of police officers expressed concerns for their safety in light of high-profile incidents involving confrontations between African-Americans and the police.[136] In all, 93% of officers surveyed expressed concern for their safety in the current socio-political environment. Additionally, 72% of officers expressed a reduced willingness to stop and question people who seem suspicious, and 76% of officers were more reluctant to use force when it is

[135] Morin et al., "Behind the Badge," 75

[136] Morin et al., 5

appropriate.[137] These statistics are concerning because they display a clear propensity among a representative majority of police officers across the nation to minimize the risk of exposure to negative consequences in their public interaction. It is worth noting as well that the feelings expressed by the surveyed officers do not take into consideration a change in their attitude related to the BWC technology but reflect the starting point for officers' fears even before factoring in BWC-influenced attitude changes. Morin et al. also reported that 86% of officers identified police work as being more difficult today as a result of the high-profile incidents and more than two-thirds felt large public demonstrations after high-profile incidents are reflective of an ongoing anti-police bias among civilians.[138] Morin et al. state that more than two-thirds of surveyed officers had reported being verbally abused by the public.[139]

The prevailing theme contained within the above-mentioned data is indicative of a generalized state of apprehension among surveyed officers concerning their policing duties. It is noteworthy to mention that the source of this apprehension was not the dangers of the profession itself but the current socio-political climate in which officers are policing. A significant number of officers surveyed expressed profound concerns for their safety and a propensity to reduce engagement with the public. The generalized attitudes and beliefs expressed by the surveyed officers are important to this thesis because they show the common starting point of police officers' current attitudes toward the public and their profession. The generalized attitudes and beliefs expressed by surveyed officers demonstrate their propensity to limit engagement and exposure with the public as a form of self-protection and risk minimization even prior to the introduction of BWC. Since BWC, a transformative technology implemented to provide greater accountability and oversight of policing practices, some officers might view this enhanced oversight negatively and limit their exposure further through the use of discretion or alternative

[137] Morin et al., 5

[138] Morin et al., 6.

[139] Morin et al., 6.

policing practices like increased traffic enforcement, which are less likely to result in a controversial critical incident.

B. OFFICERS' EXPRESSED PERCEPTIONS OF BWC

Numerous scholarly studies were identified that contained information relevant to the officer's perceptions of BWCs. Each of the identified surveys containing officer perspectives data was explicitly developed for the scholarly research they were initially intended and vary in the number of officers surveyed, the department or departments involved, and the type of information captured. However, they provide extremely valuable insight into the current state of police officers' attitudes toward the public, how they perform their duties, and how they feel about the introduction of BWC.

1. Study of Three Departments

Between 2013 and 2015, Gaub et al. studied perceptions of BWC by officers from three different agencies and identified that the line officers and their attitudes toward BWC is important to the success of a BWC program.[140] The survey instrument was administered to a combined total of 464 police officers from three police departments: Spokane, Washington, and Tempe and Phoenix, Arizona.[141] The survey was administered both before and after BWC deployment, and a summary of the results are shown in Table 1. The pre-deployment results showed the majority of officers in all three departments felt BWCs would not improve their job satisfaction and performance; more precisely, 94% of Phoenix officers, 90% of Spokane officers and 84% of Tempe officers felt BWCs would not improve job satisfaction.[142] Post-deployment results on the same questions found that 98% of Phoenix officers, 79% of Spokane officers, and 75% of Tempe officers felt BWCs would not improve job satisfaction.[143]

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[140] Janne E. Gaub, David E. Choate, Natalie Todak, Charles M. Katz, and Michael D. White, "Officer Perceptions of Body-Worn Cameras Before and After Deployment: A Study of Three Departments," *Police Quarterly* 19, no. 3 (September 2016): 282, https://doi.org/10.1177/1098611116653398.

[141] Gaub et al., 283.

[142] Gaub et al., 284-285.

[143] Gaub et al., 288.

On the pre-deployment question of job performance, 83% of Phoenix officers, 80% of Spokane officers, and 64% of Tempe officers felt BWCs would not improve their job performance.[144] On the post-deployment question of job performance, 89% of Phoenix officers, 72% of Spokane officers, and 60% of Tempe officers indicated BWCs did not improve job performance. The comparison of the responses between pre- and post-deployment indicates Phoenix officers' perceptions regarding BWCs' effects on their job satisfaction and performance became worse after deployment. The study showed that Spokane and Tempe officers displayed slight increases in their perceptions; however, significant numbers of officers reported that BWCs did not improve job performance and satisfaction post-deployment.

These data indicate that the surveyed officers did not favorably perceive BWCs as a technology that would improve their job satisfaction or performance. The surveyed officers' lack of positive perceptions of BWCs as a technology to improve job performance and satisfaction could lead to changes in attitudes or policing behavior and adversely impact the officers' acceptance of BWCs. If the officers themselves lack belief in the effectiveness of the technology to help them do their jobs, the technology would not be accepted organically as a technological innovation advancing the profession and might lead to the development of negative attitudes or behaviors.

Gaub et al., included specific questions in their survey intended to measure officers' perceptions of how BWC would affect their policing behaviors.[145] These questions elicited pre-deployment responses, which showed variations based upon the agency in which the officers worked. On the question of whether BWC deployment would decrease police officers' contacts with citizens, 64% of Phoenix officers said yes, however, only 31% of Spokane officers and 24% of Tempe officers agreed. On the post-deployment question of BWCs' effect on police-citizen contacts, Gaub et al., determined that 68% of Phoenix

[144] Gaub et al., 285.

[145] Gaub et al., 284.

officers, 31% of Spokane officers, and 23% of Tempe officers agreed BWC deployment would decrease police officers' contacts with citizens.[146]

When asked about BWCs' effect on officers' ability to use discretion, 86% of Phoenix officers, 52% of Spokane officers, and 56% of Tempe officers agreed that the presence of the BWC would make officers less likely to use discretion. The post-deployment question regarding BWCs' effect on officers' use of discretion found that 82% of Phoenix officers, 51% of Spokane officers, and 56% of Tempe officers agreed that the presence of the BWC would make officers less likely to use discretion.

Overall, 75% of Phoenix officers, 57% of Spokane officers, and 67% of Tempe officers felt the presence of BWCs would result in officers being more cautious in their decision-making in pre-deployment questioning. Post-deployment questioning resulted in 75% of Phoenix officers, 48% of Spokane officers, and 72% of Tempe officers reporting the presence of BWC would result in officers being more cautious in their decision-making. Concerning the question of BWC-equipped officers being more cautious in decision-making, only Spokane officers reported the BWC would not make officers more cautious.[147] Phoenix reported the same 75% results for the cautious decision-making question in both pre- and post-deployment surveys.[148] Tempe officers felt more strongly that they would be more cautious in their decision-making in the post-deployment questioning with an increase from 67% to 72% of their officers agreeing that the presence of the BWC would make them more cautious in their decision-making. See Table 1.[149]

[146] Gaub et al., 287.

[147] Gaub et al., 287.

[148] Gaub et al., 284–288.

[149] Gaub et al., 284–288.

Table 1. Three Departments Studied[150]

	Pre-Deployment	Post-Deployment
Agency	**Factor & % Score**	**Factor & % Score**
	Would not improve job satisfaction	**Would not improve job satisfaction**
Phoenix	94%	98%
Spokane	90%	79%
Tempe	84%	75%
	Would not improve performance	**Would not improve performance**
Phoenix	83%	89%
Spokane	80%	72%
Tempe	64%	60%
	Would decrease citizen contact	**Would decrease citizen contact**
Phoenix	64%	68%
Spokane	31%	31%
Tempe	24%	23%
	Reduce officer discretion	**Reduce officer discretion**
Phoenix	86%	82%
Spokane	52%	51%
Tempe	56%	56%
	More cautious in decision making	**More cautious in decision making**
Phoenix	75%	75%
Spokane	57%	48%
Tempe	67%	72%

Results from these surveys indicate very little change in officer perceptions between the pre- and post-deployment questioning.[151] These responses show a perceptual pattern among officers that BWC technology will not improve their job performance or satisfaction with their profession. These officers also expressed that the BWC would make

[150] Adapted from Gaub et al., 284–288.

[151] Gaub et al., 284–288.

them more cautious in their decision-making and reduce their ability to use discretion in policing.

It is worth noting that there were several areas within the survey in which officers from all three departments agreed that BWC technology would have a positive impact on certain aspects of their job.[152] When questioned on BWCs' ability to increase the accuracy of incident reporting, 78% of Phoenix officers and 80% of both Spokane and Tempe officers agreed BWCs would be a benefit.[153] Another area of agreement was on the BWCs' ability to improve the quality of evidence, with 66% of Phoenix officers, 80% of Spokane officers, and 87% of Tempe officers agreeing on BWCs' ability to provide positive benefits. Despite all the acknowledged evidentiary and accuracy benefits of BWCs, 86% of Phoenix officers, 89% of Spokane officers, and 77% of Tempe officers felt that the presence of BWCs would not increase officer safety during the pre-deployment questioning.[154] The post-deployment results for the same officer-safety–related question yielded similar results with 91% of Phoenix officers, 75% of Spokane officers, and 80% of Tempe officers reporting BWCs would not be an improvement to officer safety.[155] The survey results on the question of BWCs' ability to increase officer safety is very relevant to this thesis because it demonstrates that the surveyed officers do not see BWCs as a technological improvement that makes them safer in the field.

As discussed earlier, officer safety and security serve as foundational concepts of the law enforcement identity and are held in very high regard within the in-group narratives of police officers. BWCs' effect on officer safety becomes very significant when the concept of officer buy-in is discussed. The results of the Gaub et al. study speak to the question of buy-in, where a majority of the officers surveyed agreed with the evidentiary and accuracy benefits of BWC while disagreeing on BWC's ability to increase officer

[152] Gaub et al., 284.

[153] Gaub et al., 284.

[154] Gaub et al., 284.

[155] Gaub et al., 288.

safety, job performance, and satisfaction.[156] For officers to readily accept and deploy BWCs without altering their policing attitudes and behaviors, there must be acceptance and buy-in of the technology from the officers' perspective. This is further discussed in the recommendations section.

2. Buffalo and Rochester Study

In a 2017 study, Gramaglia and Phillips used similar questions to the Gaub et al. study to measure officer perspectives from two large police agencies in the northeast: the Buffalo and Rochester Police Departments.[157] This study was conducted by the Chief of the Buffalo Police Department with assistance from a Captain of the Rochester Police department and sought to conduct an anonymous online survey of the 725 Rochester officers and the 750 Buffalo officers.[158] It is noteworthy to mention that the study had a return rate of only 20% for the online survey, with only 258 of the potential total of 1475 officers participating.[159] The authors attributed the low response rate to the Buffalo Police Department to lack of plans to establish a BWC program at the time the surveys were conducted.[160] The Rochester Police Department was in the midst of implementing a BWC program at the time this study was conducted and the authors acknowledge that discussion among officers might have influenced the framing of responses from that organization.[161]

On the question of officer safety, only 32% of Buffalo officers and 46% of Rochester officers agreed or strongly agreed that BWC would decrease safety.[162] How the authors posed this question in their survey is different from the manner in which Gaub et

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156 Gaub et al., 284–288.

157 Joseph A. Gramagila, and Scott W. Phillips, "Police Officers' Perceptions of Body-Worn Cameras in Buffalo and Rochester," *American Journal of Criminal Justice* 43, no. 2 (June 2018): 313–28, http://dx.doi.org/10.1007/s12103-017-9403-9.

158 Gramaglia and Phillips, 318.

159 Gramaglia and Phillips, 318.

160 Gramaglia and Phillips, 322–323.

161 Gramaglia and Phillips, 323.

162 Gramaglia and Phillips, 321.

al. posed a similar question.[163] Gaub et al. questioned survey respondents as to BWCs' ability to *increase* officer safety, whereas Gramaglia and Phillips questioned respondents from the perspective of the technology's ability to *decrease* officer safety.[164] The previously discussed results from the Gaub et al. study found that statistically significant numbers of officers did not believe BWCs would increase officer safety.[165] In contrast, Graham and Phillips found that statistically significant numbers of officers did not feel BWCs would have an adverse effect on officer safety.[166] Gramaglia and Phillips concluded that evidence of BWCs' effect on officer safety should be further researched as officer safety is one of the most important aspects of policing and a key component in obtaining officer buy-in of BWCs.[167]

Officers in both Buffalo and Rochester agreed that BWCs would not make citizens more respectful of the police during interactions.[168] In all, 72% of Buffalo officers and 78% of Rochester officers felt the technology would not improve citizen behavior.[169] Another area of agreement between the Gaub et al. study and the Gramaglia and Phillips study was in the area of BWCs' effect on officer discretion. Gramaglia and Phillips reported that 81% of Buffalo officers and 86% of Rochester officers agreed or strongly agreed that BWC would reduce their ability to use discretion.[170] Gaub et al. found that a majority of all the officers surveyed perceived BWC as making them feel like they had less discretion.[171] An important factor many officers in this study expressed was the ability to review BWC video before report writing and testifying in court.[172]

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[163] Gaub et al., "Three Departments," 288.

[164] Gaub et al., 288. Gramaglia and Phillips, "BWC Buffalo," 321.

[165] Gaub et al., 288.

[166] Gramaglia and Phillips, "BWC Buffalo," 324.

[167] Gramaglia and Phillips, 324.

[168] Gramaglia and Phillips, 321.

[169] Gramaglia and Phillips, 321.

[170] Gramaglia and Phillips, 322.

[171] Gaub et al., "Three Departments," 288.

[172] Gramaglia and Phillips, "BWC Buffalo," 324.

3. Hallandale Study

In a 2017 study of the Hallandale Beach Police Department (HPD) by Headley et al., surveys were conducted to ascertain officers' perspectives on the technology.[173] HPD is a 60-officer agency in Broward County, Florida. In the months preceding the decision to implement BWC technology at HPD, there had been numerous controversial officer-involved shootings in the department.[174] Additionally, the police union at HPD had expressed concerns that BWCs would adversely affect officers' performance before the deployment, which may have influenced officers' attitudes.

The most relevant data regarding officer perceptions from the Hallandale Beach study was the fact that there was a more negative view of BWC post-implementation.[175] Headley et al. found that the views of both the treatment and control groups were negative toward BWCs' ability to increase transparency, and reduce complaints and use of force.[176] Headley et al. attributed the negative perceptions of BWC to the way the HPD's administration implemented the BWC program and allowed recorded videos to be used to review performance and reprimand officers for what the officers believed to be minor rule violations.[177] Nonetheless, the prevailing officers' perspective in this study was negative toward the technology, including the ones who were not wearing BWCs at the time of the study.[178]

4. Denver Study

In Ariel's 2016 study of BWCs in large departments, 119 officers from the Denver Police Department were surveyed as to their perceptions of BWC.[179] Ariel used two open

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[173] Andrea M. Headley, Rob T. Guerette, and Auzeen Shariati, "A Field Experiment of the Impact of Body-Worn Cameras (BWCs) on Police Officer Behavior and Perceptions," *Journal of Criminal Justice* 53 (November 2017): 102–9, https://doi.org/10.1016/j.jcrimjus.2017.10.003.

[174] Headley et al., 104.

[175] Headley et al., 106.

[176] Headley et al., 104.

[177] Headley et al., 107.

[178] Headley et al., 102–109.

[179] Ariel, "Police Body Cameras," 748–749.

ended questions in order to allow survey participants to express their perspectives on BWC technology.[180] The questions were designed to elicit a response to obtain perceptions of how the officers believed BWC would affect their performance and their fears of how BWC might threaten their work environment.[181] This was the first study in the dataset that allowed officers to openly express their perceptions and feelings regarding BWC and not limit their responses to just agreeing or disagreeing with a research question.

The officers' responses indicated that BWC was perceived as a mechanism for control over the officers' and would adversely affect self-initiated work.[182] Officers expressed a concern that BWC would be used to remove their discretion and increase the officer's liability for decisions made through what one officer described as "armchair quarterbacks" dissecting footage criticizing officers' decisions. Participating officers also expressed their concerns that the BWC represented the public's mistrust of police officers and the ability for supervisors and the general public to review videos and criticize officers' decisions was viewed negatively.

Like officers in the Buffalo/Rochester study, Denver officers expressed a desire to be allowed to review their BWC videos before writing reports and testifying in proceedings.[183] Ariel cautioned about the potential for a "backfiring effect" where BWC might adversely affect police operations.[184] The perspectives detailed by Ariel display Denver officers' fears for the negative consequences of being perceived to make a mistake on camera during a review of the video by the public or a supervisor. Overall, the reported officer responses on their perceptions of BWC were negative.[185]

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[180] Ariel, 748–749.

[181] Ariel, 748–749.

[182] Ariel, 753.

[183] Ariel, 753.

[184] Ariel, 754.

[185] Ariel, 753.

5. MBPD Study

In Ariel's yet unpublished 2018 BWC study of the MBPD, officer surveys were administered on three occasions where line officers, detectives, and officers assigned to specialized units were asked questions to obtain their perspectives of BWC.[186] The MBPD BWC study used a 111-question online survey instrument, which guaranteed participant anonymity and was first administered immediately following department-wide training on the BWC program.[187] Follow-up surveys were conducted to obtain the unique perspectives of detectives assigned to the Criminal Investigations Division and specialized units like the Crime Suppression Team (CST), Canine Unit (K9), and Marine Patrol. Ariel developed four research questions to explore within the 111-question survey in order to obtain a more robust understanding of officers' perceptions, expectations, and reservations of the technology and predictions for the success of the program.[188] Ariel also included questions to ascertain officer perceptions of internal procedural justice in what he described as "the mediating effects of group dynamics, culture, and the status of policing in America."[189] This block of questions asked officers their feelings and perceptions on the current status of the policing profession and how publicity has affected their policing practices and overall professional attitudes.[190] Of all the officer surveys reviewed as part of this thematic analysis, this study had the most comprehensive survey instrument and captured the most relevant data to this analysis.

Officer responses on the topic of overall perceptions of BWC technology were similar to the responses from officers surveyed in other studies, with MBPD Officers expressing predominantly negative views.[191] Almost two-thirds of the officers surveyed reported BWC would reduce their motivation to be proactive and 59% would be more

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186 Ariel, "The Mediating Effects of Group Dynamics, Culture, and the Status of Policing in America: Miami Beach Police's Body Worn Camera Project," 3.

187 Ariel, 9.

188 Ariel, 11.

189 Ariel, 11.

190 Ariel, 21.

191 Ariel, 13.

cautious in their decision-making in the presence of BWCs. Fewer than one-third of MBPD officers believed that the BWC program would be a positive change for the department and only 29% would choose to wear a BWC if given an option. On the questions of whether all departments should adopt BWCs and if BWCs were worth the financial costs, only 36% of officers agreed BWC should be adopted by all police departments and only 31% believed BWCs were worth the financial expense. Generally speaking, MBPD officers' responses demonstrated strongly adverse feelings and views toward BWCs.

When questioned about expectations and reservations regarding how BWCs would affect their role and authority, 77% of MBPD officers in Ariel's study disagreed that BWCs would increase public trust in the police.[192] On the question of whether citizens would be more polite in the presence of a BWC, 88% of officers disagreed that this would be true. Only one-third of MBPD officers believed BWCs would increase accountability in policing. However, despite the overall negative views toward the BWC, 51% of officers believed BWC would protect them against a false allegation of misconduct. Interestingly, a majority of MBPD officers expressed little confidence in BWCs' ability to change public behavior and perceptions, had overall negative views and expectations of BWC, yet they believed it would protect them from false or frivolous complaints.

On the topic of BWCs' anticipated effect on use of force, 50% of MBPD officers believed they would be more apprehensive about using appropriate force and 47% believed they would be apprehensive about using any force when it was necessary.[193] Based on the negative expectations and perceptions of BWC expressed by a majority of MBPD officers, it was surprising to see that a statistically significant majority of respondents have positive views on internal procedural justice.[194] In all, 77% of officers reported they were satisfied with their job and 70% reported being treated fairly by the department and its supervisors.

When questioned regarding how the preceding 12 months of negative publicity toward law enforcement affected them, 68% of officers reported it caused them to be less

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[192] Ariel, 15.

[193] Ariel, 17.

[194] Ariel, 20.

proactive than earlier in their career.[195] Almost two-thirds of the officers stated they would be less likely to stop a suspicious person and believed the ongoing negative publicity toward police officers adversely affected their job.[196] Ariel noted that although MBPD officers showed high levels of job satisfaction, they were moderately cynical toward the utility of BWC technology and its benefits in their survey responses.[197]

The supplemental survey results from officers assigned to specialized units were also negative toward BWCs, with more than 92% of the respondents reporting they would not wear a BWC as either a patrol officer or specialized unit officer if given the option.[198] Of all the survey participants, the personnel assigned to specialized units displayed the strongest negative feelings toward the technology.

MBPD detectives assigned to the Criminal Investigations Division also expressed negative views toward BWC, with 87% disagreeing that BWC would make their jobs easier and 78% believing defense attorneys would challenge their cases using BWC videos in court.[199] On the topic of the usefulness of BWC videos as evidence in court, only 50% of detectives believed they would help in the prosecution of domestic violence cases even when the victim is unwilling to testify.[200] On the question of BWCs' effectiveness at providing more accurate accounts of incidents, only 40% of detectives agreed or strongly agreed with this statement.

6. Summary of Officer Perceptions

As previously stated, the survey instrument Ariel used in the MBPD study was the most comprehensive and captured the broadest range of opinions of all the surveys reviewed in the thematic analysis. Of all the surveys reviewed in this analysis, officers from Phoenix, Denver, and MBPD provided the most negative perceptions toward BWCs. While

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195 Ariel, 21.

196 Ariel, 21.

197 Ariel, 29.

198 Ariel, 49.

199 Ariel, 35.

200 Ariel, 36.

MBPD officers retained high levels of job satisfaction and positive perspectives regarding internal procedural justice, they expressed the most negative perceptions of BWCs and its impact on the profession. Regardless of MBPD officers' perceptions of fair treatment and job satisfaction, they by far expressed the most negative perceptions of BWC and its impact on the job.

The following recurring themes were identified from officer perceptions expressed in the analyzed dataset:

- Officers believe BWCs will neither improve nor increase officer safety.
- BWCs will not improve officers' job satisfaction or performance.
- Officers are more reluctant to stop suspicious people.
- Officers are more cautious in their decision-making.
- Officers are more reluctant to use force even when justified.
- BWCs will reduce police officers' discretion in decision-making.

Overall, the themes identified in this section translate to officers perceiving BWC technology as more of a hindrance than an innovation. Since the majority of themes identified are negative toward BWCs, the technology has the potential to adversely affect officers' attitudes and policing behaviors. Since the officers themselves have no control over the policies that dictate how and when they will wear and activate the BWCs, the officers are more prone to engaging in self-protective behaviors. Potential changes in policing practices could manifest in several forms, some of which are more difficult to detect and can have an adverse impact on crime rates; however, they are all rooted in the police officers' ingrained need for self-protection.

These potential changes in productivity or level of engagement are discussed further in the following section. However, it is important to note that police officers do not have to engage in overt acts of defiance or de-policing to demonstrate an attitude change after the mandate to wear a BWC. Subtle changes to an officer's policing style may

manifest themselves in which they scale back certain types of enforcement activities that might result in a higher likelihood of confrontation or potential controversy. Officers can instead use their occupational discretion to switch to a less confrontational or dangerous form of enforcement activity, like increased traffic enforcement. This subtle switch can protect the officers from internal disciplinary action that might come as a result of a complete shutdown of proactive activity. It provides the officer with the ability to continue to be productive and allows for them to engage in some measure of self-protection by avoiding more high-risk enforcement activities like narcotics enforcement or suspicious person stops. The following section focuses on officer productivity data before and after BWC deployments.

C. THEMATIC ANALYSIS OF OFFICER PRODUCTIVITY

The second aspect of the thematic analysis identifies data from scholarly research capturing relevant information regarding officer productivity related to BWC deployment. As previously stated, the majority of available research studies regarding BWCs have been structured in a manner to evaluate the efficacy of the technology based on its ability to reduce use of force and complaints against officers.[201] From an analytical perspective, the primary focus of this research was to evaluate BWC technology and its capabilities to reduce what researchers described as the negative policing behaviors of unnecessary or excessive use of force and misconduct.[202] How BWCs would affect policing practices or the officers themselves was not evaluated by most researchers and as such, productivity data were not readily reported. The primary focus was to determine if BWCs would make officers less likely to use force or receive complaints.

The studies contained within the dataset for this facet of the thematic analysis were conducted between 2013 and 2018. Regardless of the primary focus of the original studies or the quantitative conclusions, if the researchers collected data on police officer

[201] Ariel et al., "The Effect of Police Body-Worn Cameras," 509–535; Ariel et al., "'Contagious Accountability," 293–316.

[202] Ariel et al., "The Effect of Police Body-Worn Cameras," 509–535; Ariel et al., "Contagious Accountability," 293–316.

productivity, in the form of arrests, citations, or citizen contacts, they were included in the dataset for analysis. Many of the same studies referenced in the previous section from the officer perceptions surveys are also included in this section under the scope of officer productivity.

1. Rialto Police Studies

The 2015 Ariel et al. study was the first true randomized control trial to evaluate BWCs scientifically and resulted in shaping much of the BWC research moving forward.[203] Ariel et al. reported significant reductions in use of force and citizen complaints post-BWC. The study reported a small amount of productivity data in the form of police-citizen contacts. According to Ariel et al., Rialto Police officers interacted with citizens 45,104 times in the year before BWC deployment.[204] This study was conducted at a very early stage in the diffusion and implementation of BWC technology within the industry. Post-BWC implementation, Rialto officers reported 43,289 police-citizen contacts, a decrease of 4% from the previous year.

In a follow-up study published in 2017, Sutherland et al. reviewed the effects of the BWCs on the same use of force and complaints post-experiment to see if the results were sustained.[205] In contrast to the original Rialto study, Sutherland et al. reported arrest numbers instead of police-citizen contacts for both the pre- and post-experiment periods. In 2011, the year before the deployment of BWC, Rialto officers made 3,495 arrests and in 2012, the year of the BWC experiment, they made 3,823 arrests.[206] These data indicate that although Rialto officers had a 4% reduction citizen contacts in the year of the study, they made 8% more arrests than in the previous year and the upward trend continued in the

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[203] Ariel et al., "The Effect of Police Body-Worn Cameras," 509–535.

[204] Ariel et al., 524.

[205] Alex Sutherland et al., "Post-Experimental Follow-Ups—Fade-out versus Persistence Effects: The Rialto Police Body-Worn Camera Experiment Four Years On," *Journal of Criminal Justice* 53 (November 2017): 110–16, https://doi.org/10.1016/j.jcrimjus.2017.09.008.

[206] Sutherland et al., "Rialto Follow-up," 112.

post-experimental years.[207] A noteworthy fact to point out regarding the 2017 Rialto study was that the number of officers in the agency increased by 63% from 54 in 2013 to 88 in 2017.[208] In spite of this sharp increase in personnel, the increase in arrests was only 5%, from 2013 (3,823) to 2017 (4,023).

2. Mesa Police Study

According to the 2015 study by Justin Ready and Jacob Young, which details the impact of BWCs on police-citizen contacts within the Mesa (Arizona) Police Department, officers were more prone to avoid risk once they were equipped with a BWC.[209] This finding was supported by the fact that officers conducted significantly fewer stops and frisks of suspicious persons and arrests after they were assigned a BWC.[210] Ready and Young found officers with BWCs did not reduce their overall productivity but altered their policing practices, reflecting a preference to conduct traffic stops instead of suspicious person stops. Additionally, Ready and Young found officers were more likely to issue a citation for traffic or ordinance violations than make an arrest.[211] Ready and Young attributed the increase in citations to officers engaging in risk minimization to avoid the consequences arising from civil liability for abuse of authority or personal liability to the officer for neglect of duty.[212] This study clearly showed a BWC-influenced change in policing behavior designed to reduce officer risk by increasing traffic enforcement and citizen contacts at the expense of reduced arrests and person stops.

The reduction in engagement with suspicious persons and arrests, coupled with the increase in citations and citizen contacts, may be indicative of officers using their

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207 Ariel et al., "The Effect of Police Body-Worn Cameras," 524; Sutherland et al., "Rialto Follow-up," 112.

208 Sutherland et al., "Rialto Follow-up," 112.

209 Justin Ready and Jacob Young, "The Impact of On-Officer Video Cameras on Police-Citizen Contacts: Findings from a Controlled Experiment in Mesa, AZ," *Journal of Experimental Criminology* 11, no. 3 (September 2015): 445–58, https://doi.org/10.1007/s11292-015-9237-8.

210 Ready and Young, 454.

211 Ready and Young, 454.

212 Ready and Young, 454.

discretionary authority to alter policing practices in the wake of BWC deployment. It is noteworthy to point out that an increase in citizen contacts may not translate to more effective or efficient police work. Data showing with whom officers are interacting and their type of criminal history, if any, need be present to identify if officers are electing to interact with everyday citizens instead of habitual offenders and career criminals. By changing with whom they engage and interact in the field, officers can continue to be appear proactive in the eyes of their departments and community while at the same time becoming less effective in combatting crime, the fear of crime, and the perception of criminal activity.

3. Milwaukee Police Study

In a 2018 study published by Peterson et al., which evaluated the effects of BWC deployment, over an eighteen month period, within the Milwaukee Police Department, researchers found what they termed as a "significant reduction" in arrests by both the treatment (BWC equipped) and control (non–BWC equipped) groups.[213] According to Peterson et al., during the nine-month period prior to the deployment of cameras, treatment group officers made an average of 13.79 arrests each, while control group officers made 13.50 each.[214] This translates to a downward change in arrests by BWC-equipped officers from 3,475 before to 2,828 after. The results for non-BWC equipped officers was almost identical with 3,213 arrests before to 2,846 after. In both the treatment and control groups, there was a reduction in arrests of more than 12%. The researchers also reported a drop in suspicious person stops, with officers wearing BWCs making almost 41% fewer stops than they did before deployment of BWCs and 15% fewer than officers without BWCs.

Consistent with the results of the Mesa study, Peterson et al., also found BWC-equipped officers increased the number of traffic stops they made.[215] This study is another example of how officers can modify their policing behaviors in the presence of BWCs.

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[213] Bryce E. Peterson et al., "The Milwaukee Police Department's Body-Worn Camera Program: Evaluation Findings and Key Takeaways," Urgan.org., May 2018, 3, https://www.urban.org/sites/default/files/publication/98461/the_milwaukee_police_departments_body_worn_camera_program_2.pdf.

[214] Petersen et al., 4.

[215] Petersen et al., 5.

Petersen et al., did not explain the changes in policing behavior; however, the officers' actions, as demonstrated by the data, are consistent with the risk-minimization behaviors identified by Ready and Young during the Mesa Police Department study.[216]

Both the Mesa and Milwaukee studies showed similar patterns of BWC-influenced alterations to policing behaviors. Officers in both agencies conducted fewer person stops and arrests while conducting more traffic stops and issuing more citations. These studies provide examples of altered policing practices where officers modified the type of enforcement action they took and the persons with which they interacted while remaining engaged and productive. However, there was no evidence of de-policing in either of these studies and the effect, if any, from the change in policing behavior in the form of changes to crime rates was not measured in either study.

4. Las Vegas Police Study

In a study published in 2017 on the pilot deployment of cameras with the Las Vegas Metropolitan Police Department (LVMPD), Braga et al. reported increases in citations issued and arrests.[217] Of all the studies reviewed in this thematic analysis, this was one of the few that showed an increase in officer productivity. According to Braga et al., Las Vegas officers assigned BWCs issued approximately 7% more citations and made 5% more arrests than officers without BWCs.[218] Notably, LVMPD is an agency that has embraced new technologies and tested BWCs early in its development domestically in 2011, prior to the post-Ferguson proliferation.[219] Las Vegas took a cautious approach to the evaluation of BWCs and first tested different models of cameras from various manufacturers to decide which design worked best for their officers.[220] Once a model was selected, LVMPD tested

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216 Ready and Young, "The Impact of On-Officer Video Cameras on Police-Citizen Contacts: Findings from a Controlled Experiment in Mesa, AZ," 454.

217 Anthony Braga et al., "The Benefits of Body-Worn Cameras: New Findings from a Randomized Controlled Trial at the Las Vegas Metropolitan Police Department," Final Report, National Institute of Justice, September 28, 2017, 9, https://www.cna.org/cna_files/pdf/IRM-2017-U-016112-Final.pdf.

218 Braga et al., 9.

219 Braga et al., 9.

220 Braga et al., 23–24.

it in the field with 200 officers in 2014.[221] One of the interesting factors to consider with this particular study was the manner in which the LVMPD selected the personnel to participate in the study and the policy safeguards put in place.

Braga et al., used 416 officers to volunteer as the treatment group for the BWC trial due in part to the fact that police commanders could not mandate officers to wear BWCs at that time due to contractual prohibitions in place.[222] Las Vegas Police Commanders encouraged Sergeants to volunteer for the BWC study and according to Braga et al., most volunteers were likelier to be Sergeants and assigned to three specific district commands.[223] In response to officers' expressed concerns during interviews, Las Vegas Commanders enacted a voluntary BWC program with a policy that limited supervisory review of the videos.[224] This change was made to prevent police union resistance to the BWC pilot program and increase the number of volunteers.

D. DE-POLICING OR DISCRETION

This section of the thematic analysis also evaluates the dataset for the presence of productivity data indicative of officers engaging in the practice of de-policing. As previously discussed, "de-policing" is a term used by researchers to describe actions by police officers that reduce their proactive engagement with the public in order to avoid potential negative consequences of becoming involved in a controversial critical incident, like a use of force.[225] For this thematic analysis, a reduction of more than 25% in productivity after the deployment of BWC will be considered indicative of the presence of de-policing. This 25% threshold was selected as it reflects a significant enough change in activity that would attribute to the new administrative demands placed upon officers due to BWC technology. Equally important as the presence of overt de-policing in the dataset is an organizational shift in post-BWC policing practices showing increases in traffic

[221] Braga et al., 24.

[222] Braga et al., 5, 24.

[223] Braga et al., 5.

[224] Braga et al., 30.

[225] Shjarback et al., "De-policing and Crime in the Wake of Ferguson."

enforcement or citations issued. These changes to less confrontational policing practices are more difficult to identify and often serve as ways for officers to continue to meet organizational mandates on productivity or engagement while actually still engaging in self-protective behaviors or avoidance of more conflict-prone police encounters. In some instances, this particular type of shift in policing practice can have an adverse impact upon violent crime rates. This can occur due to the most prolific and dangerous offenders being contacted less often when officers shift to primarily traffic enforcement.

1. Denver Police Study

This 2016 study published by Ariel et al. reported arrests decreased from 2,718 pre-BWC to 1,274 post-BWC, an overall reduction of 53%. The combined total of arrests at all the non-BWC districts also exhibited sharp declines after BWCs were implemented in one district.[226] The combined five districts without BWCs made a total of 8,419 arrests before BWCs were piloted and 4,363 arrests post-BWC deployment; a reduction of more than 48%.[227] This could be indicative of what Ariel et al. described as "contagious accountability" in a 2016 study by the same name.[228] The researchers described the influence BWCs have within an agency during testing or deployment as tending to diffuse to beyond the group of officers carrying the cameras and affecting all officers through what they termed as "contagious accountability." Overall, the results of the Denver study showed a sharp decline of almost 50% in arrest productivity department-wide, even in the five districts where BWCs were not present.

Although it is possible that the presence of BWCs influenced Denver officers' decisions to make arrests, both within the district where the cameras were present and throughout the entire department, other factors might also have influenced arrest productivity. Nuanced factors like agency culture, officer acceptance, community feelings, media attention, and political pressure are also influential factors affecting officer productivity. However, at a minimum, there appears to be a correlation between the

226 Ariel, "Police Body Cameras," 750.

227 Ariel, 750.

228 Ariel et al., "Contagious Accountability," 293.

presence of BWCs in the agency and a reduction in officers' arrest activities, which is supported by Ariel et al.'s contagious accountability theory.[229]

The Denver study, with an average reduction in arrest productivity of 50%, displayed a productivity reduction in excess of the 25% threshold established in this thematic analysis, indicating the presence of de-policing. However, the thematic analysis method does not provide sufficient data to conclude that the BWC alone was the source of de-policing in Denver. BWCs might have been a contributing cause to explain the significant reduction in productivity; however, other cultural, societal, and political factors may have affected officers' attitudes resulting in the change in policing behaviors

2. Spokane Police Study

In a 2017 study of BWC deployment in the Spokane Police Department by Wallace et al., researchers evaluated the possible de-policing effects of the BWC.[230] They measured officer self-initiated calls and arrests among their data and found no statistically significant evidence of de-policing in Spokane.[231] Wallace et al. found that there was little difference between the activity of treatment and control group officers and that officers with BWCs had more self-initiated calls than non-BWC equipped officers.[232] However, Wallace et al., did not report what type of self-initiated activity increased among BWC officers, only that there was a statistically significant difference between their self-initiated activity and the same activity by non-BWC officers.

Although no de-policing was identified in this study, Wallace et al. did recognize that if de-policing was observed, it would be challenging to attribute causation solely to the BWC because of all the different factors that can affect officers' attitudes and

229 Ariel et al., 293.

230 Wallace et al., "Body-Worn Cameras as a Potential Source of De-policing," 29.

231 Wallace et al., 14.

232 Wallace et al., 15.

motivations.[233] The researchers also identified that officers might resist accepting the technology if they feel it has been unfairly forced upon them.[234]

3. Hallandale Beach Police Study

Notably, studies like the one conducted by Headley et al. at the HPD found slight reductions in productivity that were not statistically significant to their individual quantitative study.[235] According to Headley et al., all HPD officers, both with and without BWCs, showed a reduction in arrest productivity during the study. HPD officers equipped with BWC had a 16% reduction in arrests, while officers without BWC had an 8.9% decline. Although the authors found that the reduction in productivity was not statistically significant, the BWC officers had almost double the decline in arrests than officers without BWC.[236] Headley et al. reported that BWC officers had increases of 27% in field contacts and 16% in citations, while non-BWC officers had a decline of approximately 10% for the same categories.[237] The fact that BWC officers had increases in productivity for these items, while non-BWC officers had reductions, is interesting because the researchers' expectations prior to commencing the study were that the BWC-equipped officers would have greater reductions in productivity.[238] However, the authors noted that the increase in citations issued by BWC officers could have been a result of the lack of discretion officers felt at having the BWC capture the traffic infractions leading to the stop and the potential for negative sanctions from supervisors if they did not issue a citation.[239]

An interesting aspect of the HPD study was the fact that the department's administration changed during the study period and the new management encouraged

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[233] Wallace et al., 5.

[234] Wallace et al., 6.

[235] Headley et al., "A Field Experiment of the Impact of Body-Worn Cameras (BWCs) on Police Officer Behavior and Perceptions," 102.

[236] Headley et al., 105.

[237] Headley et al., 105–6.

[238] Headley et al., 104.

[239] Headley et al., 106.

officers to be more proactive in their enforcement activity.[240] The authors noted that increases in productivity of BWC-equipped officers during the study could be attributed to the change in organizational policy and not necessarily as a result of the BWC.

4. Louisville Metro Police Study

In the study of BWC deployment with the Louisville Metro Police Department by Schaefer et al., researchers evaluated the effectiveness of the technology by examining use of force, complaints, assaults on officers, and productivity from a quantitative perspective.[241] Like other researchers, Schaffer et al. found that there was an overall reduction in productivity after BWC introduction of approximately 5%, which was not statistically significant to the study.[242] This quantitative measure of overall productivity was reached by combining all dispatch and self-initiated calls and comparing them pre- and post-BWC deployment.[243] However, they observed the overall 5% reduction in total combined (dispatched/self-initiated) productivity was attributed to a 30% reduction in self-initiated activity for BWC-equipped officers and offset by an increase of 15% in dispatched calls. In other words, BWC-equipped officers reduced their self-initiated activity from an average of 17,029 calls per month to 11,791 calls per month post-BWC. The authors calculated that this reduction of 5,237 self-initiated calls per month represents an average reduction of 30.76% after being issued BWCs.

Although Shaffer et al. found a lack of statistical significance in the codified data in their quantitative analysis, for the purposes of the qualitative thematic analysis in this thesis the reduction in productivity after BWC deployment of almost 31% is above the 25% threshold for this examination and indicative of the presence of de-policing.

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240 Headley et al., 108.

241 Brian Schaffer, Bradley A. Campbell, Thomas Hughes, "Louisville Metro Police Department's Wearable Video System: Outcome Evaluation," Louisville Metro Police Department, 2018, 4, https://www.louisville-police.org/ArchiveCenter/ViewFile/Item/116.

242 Schaffer et al., 5.

243 Schaffer et al., 18.

5. Miami Beach Police Study

The unpublished study of the BWC deployment in the MBPD, by Barak Ariel was covered in detail from the perspective of officer perceptions earlier in this thematic analysis. The same study has relevant data regarding officer productivity in the form of measurements for self-initiated calls and numbers of arrests in both uniform patrol and specialized units.[244] The results of the MBPD BWC study indicate that there was an overall 15% reduction in arrests by BWC-equipped uniform patrol officers.[245] The reduction in arrests by uniform patrol officers was consistent with similar reductions from other agencies like Hallandale and Milwaukee.

Even more noteworthy from the MBPD study was, when BWCs were deployed with specialized unit officers assigned to the Crime Suppression Team (CST), Canine Unit (K-9), and Marine Patrol, the data showed a 70% reduction in arrests by these units from a high of 267 prior to BWC deployment to a low of 81 post-deployment.[246] Like the results of the officers' perception data detailed earlier in this thesis, the productivity data from the MBPD showed some of the most drastic changes in relation to BWC deployment of any of the agencies reviewed. This fact along with some possible explanations for the drastic changes is addressed in more detail later in this thesis.

E. SUMMARY: OFFICER PRODUCTIVITY THEMES

A recurring theme in all of the studies reviewed in this thematic analysis was that agencies saw some manner of change in productivity after the deployment of BWC. However, the change in productivity varied as either positive, negative, or mixed, depending on the specific agency. Some saw a decrease in productivity, others saw mixed results, with some measures of productivity increasing and others decreasing. A small percentage of departments analyzed in this section saw slight increases in some measure of productivity like citations or arrests after BWC deployment.

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[244] Ariel, "The Mediating Effects of Group Dynamics, Culture, and the Status of Policing in America: Miami Beach Police's Body Worn Camera Project," 1–90.

[245] Ariel, 1–90.

[246] Ariel, 1-90.

A total of 10 departments' BWC data were reviewed for this thematic analysis, and in 40% of the departments reviewed there was a decrease in officer productivity reported. In 30% of the departments, there were mixed results, with increases in some measures like citations issued and decreases in other measures like citizen contacts or arrests. In only 30% of the departments reviewed was there a reported uptick in some measure of productivity. When all departments with some type of decline in productivity are combined (mixed results and declines in productivity), there was a negative measure of productivity in the wake of BWCs in 70% of the studies reviewed. Also noteworthy, within 30% of the departments reporting increases in productivity, the majority of the increases were in the form of increased issuance of traffic citations. Among the four agencies that reported a decline in productivity, three had declines in excess of the 25% threshold set in this thesis, indicating the presence of de-policing. Although the 25% threshold was reached by those agencies, there is insufficient data to directly attribute the deployment of BWCs to the steep declines in productivity within those agencies. This is discussed further in the next chapter. To summarize:

- All agencies in the dataset report some fluctuation in productivity after BWC deployment.
- In 70% of the agencies reviewed, the changes in productivity were negative in some form.
- There is evidence of de-policing present in three of the 10 agencies reviewed.
- There is no direct causation identified between BWC deployments and de-policing.

F. PERCEPTIONS AND PRODUCTIVITY COMBINED DISCUSSION AND ANALYSIS

When the findings of the productivity analysis are compared to the findings of the officer perspectives analysis, officers from the Denver Police Department and the MBPD both expressed very negative views of BWC technology in survey responses and both

departments had the most drastically negative change in policing behaviors after BWC deployment. However, officers from every district in the Denver Police Department, both with and without BWCs, had similar drastic reductions in arrests. This fact does not support the hypothesis that a negative perspective or attitude toward BWC triggers de-policing behaviors since officers without cameras also made fewer arrests. Denver officers did indeed express negative views toward the technology, but the source of the de-policing in Denver might be better explained by the application of the Social Exchange Theory (SET).

According to a 2017 study of organizational injustice and officer responses to this phenomenon, Reynolds et al. found that officers responded to perceived organizational injustices by engaging in self-protective behaviors and production deviance.[247] One possible explanation for the drastic change of productivity seen in Denver is that officers perceived the introduction of BWCs within the context of public demands for heightened accountability and transparency and viewed this as an unfair imposition. In turn, officers responded to this perceived organizational injustice by limiting their productivity throughout the department as a form of self-protection and silent protest.

Of all the data reviewed during this research, the results from the MBPD display the most drastic changes in officer behavior in the wake of the introduction of BWCs. The question then becomes: Was the change in attitude a direct result of the BWC deployment or were there other factors present that could have contributed to this? In order to better understand the factors that influenced the drastic changes in productivity and the expressed negative views of BWC in the MBPD, it is important to understand the context within which the BWC program was introduced.

In the years leading up to the introduction of the BWC program with the MBPD, there were numerous high-profile incidents including deadly officer-involved shootings, incidents of police misconduct resulting in arrests of officers, and instances where MBPD

[247] Paul D. Reynolds, Brett A. Fitzgerald, and Jeremiah Hicks, "The Expendables: A Qualitative Study of Police Officers' Responses to Organizational Injustice," *Police Quarterly* 21, no. 1: 1, https://doi.org/10.1177/1098611117731558.

officers were alleged to have been caught drinking on duty.[248] These instances of misconduct culminated with a July 3, 2011, incident where two MBPD officers were found to have been drinking on duty and participating in a bachelorette party at a local nightclub.[249] One of the officers involved, Derick Kulian, was subsequently arrested for DUI for running over two tourists while taking a bachelorette for a joyride on his department-issued ATV.[250] This incident was highly publicized in the media and became the topic of social media posts resulting in harsh criticism of the department by the community.

This incident in 2011 set in motion a chain of events that resulted in the early retirement of one police chief and the resignation of a second.[251] In June 2014, the MBPD hired a chief of police from outside the organization, with the mandate to institute reforms to improve the department.[252] Among the new chief's first reforms was the initiation of a BWC pilot program.[253] Prior to this BWC deployment, MBPD officers did not have any in-car video cameras, and a BWC evaluation conducted in 2012 was met with strong resistance from the police union and officers. Additionally, after the 2011 incident involving Kulian, the department discovered numerous instances where officers and supervisors were not at their assigned posts during their shifts. This led to the MBPD identifying a need to have better oversight of their employees, resulting in the installation

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248 Bill Cooke, "Spectacular Scandals Have Plagued Miami Beach Police for a Century," *Miami New Times*, May 25, 2015, https://www.miaminewtimes.com/news/spectacular-scandals-have-plagued-miami-beach-police-for-a-century-7631725.

249 Curt Anderson "Miami Beach Police Department Comes under Scrutiny" Associated Press, July 26, 2011, https://www.deseretnews.com/article/700166114/Miami-Beach-police-department-comes-under-scrutiny.html.

250 David Ovalle, "Fired Miami Beach Cop Derick Kulian Charged in Drunken ATV Case," *Sun-Sentinel*, July 26, 2011, https://www.sun-sentinel.com/news/fl-xpm-2011-07-26-sfl-beach-cops-early-version-story.html.

251 "Miami Beach Police Chief Carlos Noriega Retiring," CBS News Miami, September 14, 2011, https://miami.cbslocal.com/2011/09/14/miami-beach-police-chief-retiring/.

252 "Dan Oates Sworn in as Miami Beach Police Chief," NBC News Miami," June 11, 2014, https://www.nbcmiami.com/news/local/Dan-Oates-Sworn-in-as-Miami-Beach-Police-Chief-262710251.html.

253 Joey Flechas, "Miami Beach May Put Cameras on Cops and City Employees; Some Cry Privacy Issues," *Miami Herald*, September 9, 2014, https://www.miamiherald.com/news/local/community/miami-dade/miami-beach/article2084566.html.

of dozens of surveillance cameras throughout the police station and automatic vehicle locators (AVL) in department-issued take-home vehicles.[254]

Between 2011 and 2014, the MBPD instituted drastic reforms, many of which were technology-centric and designed to provide oversight of their officers, in response to the media attention and community outrage over scandalous instances of police corruption. The BWC program was one such reform that offered the public a mechanism to reign in what appeared to be an out of control police force to many in the community.

In a similar fashion as the officers from Denver, MBPD officers responded to these reforms by engaging in self-protective behaviors and production deviance in the form of drastic reductions in arrests by specialized unit officers and self-initiated activity. It is important to note that in spite of the change in officer productivity, the MBPD reported a drop in crime of 12% between 2013 and 2016.[255] This reduction in victimization in Miami Beach continued into 2017 and 2018 and culminated with an overall reported reduction in crime of more than 20%.[256] However, at the same time that crime was significantly down statistically, public perception of crime, specifically within Miami Beach's Entertainment District, increased and led to calls from a very vocal public for changes in policing practices.[257]

The productivity data from Denver Police Department and MBPD display significant changes in officer productivity, which rises to the level of de-policing. Wolfe and Nix argue that the potential for de-policing may vary based upon local conditions, and

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[254] Michael Miller "GPS Trackers Installed in Miami Beach City Vehicles, But Cops Refuse to Turn Them On," *Miami New Times*, December 17, 2012, https://www.miaminewtimes.com/news/gps-trackers-installed-in-miami-beach-city-vehicles-but-cops-refuse-to-turn-them-on-6533085.

[255] Jimmy Morales, "Miami Beach Police Letter to Commission: 2016 Crime Statistics," City of Miami Beach, February15, 2017. http://docmgmt.miamibeachfl.gov/WebLink/DocView.aspx?dbid=0&id=160699&page=1&cr=1.

[256] Jimmy Morales, Letter to Commission, "Uniform Crime Report (UCR) Statistics for Crime in 2017," City of Miami Beach, February 23, 2018, https://docmgmt.miamibeachfl.gov/WebLink/DocView.aspx?id=217206&dbid=0&repo=CityClerk.

[257] "Special Commission Meeting to Discuss Traffic, Safety Concerns, Quality of Life Issues, and Spring Break (2019)," march 19, 2019, City of Miami Beach Commission, https://miamibeach.novusagenda.com/agendapublic/CoverSheet.aspx?ItemID=12438&MeetingID=671.

the results of this thematic analysis are consistent with their conclusions.[258] Moreover, the fact that only certain locations saw adverse changes in productivity after BWCs were deployed strengthens the argument that a combination of factors beyond the technology itself might be the cause of behavioral changes in officers. It is important to note that the factors affecting officers' attitudes and decisions to engage in self-protective behaviors or de-policing are complex, heavily influenced by local agency culture and politics, and difficult to pinpoint to any one cause. For that reason, there is insufficient data available to identify BWCs as the direct cause of changes in officers' attitudes and behaviors. The dataset is clear that in the wake of BWC deployment, some officers' attitudes and behaviors change, manifesting in altered policing styles; however, these changes do not occur as a result of the introduction of BWC alone.

[258] Scott E Wolfe, and Justin Nix, "The Alleged 'Ferguson Effect' and Police Willingness to Engage in Community Partnership," *Law and Human Behavior* 40, no. 1 (2016): 1–10, https://doi.org/10.1037/lhb0000164.

V. SUMMARY, RECOMMENDATIONS, AND CONCLUSION

A. SUMMARY

The dataset analyzed in the thematic analysis clearly illustrated a change in officers' policing behaviors after the introduction of BWCs. Even in agencies that reported increases in productivity, the majority of those were in the issuance of citations and in a number of agencies, there were significant decreases in officer productivity. Even in cases where there were slight increases in productivity, in numerous instances they were illustrative of increased traffic enforcement activity, which has been identified as a form of self-protective shift in policing style and with a diminished likelihood of confrontation or controversy for the officers. This type of self-initiated officer activity is less likely to result in confrontations with hardcore criminals, and enforcement actions like citations are easily justified using the BWC video in any court proceedings. Additionally, this shift in officer proactivity from other self-initiated activities like suspicious person stops or street-level narcotics enforcement may also be a form of self-protective behavior in the wake of BWCs. The possibility exists that some officers shift to self-initiated activities that minimize the opportunities to be embroiled in a controversial use-of-force incident or a confrontation that would result in a complaint instead of discontinuing or decreasing proactive enforcement post-BWCs. These data coupled with the officers' perception data sufficiently justifies increased research in the area of BWCs' influence on policing behaviors.

One possible explanation for the drastic changes in officer behavior seen in some of the agencies and not observed in others may be related to the officers' feelings toward their respective departments, the context within which BWCs were introduced, individual department culture, and the officers' perception of organizational support (POS). According to a 2018 study by Adams and Mastracci, the implementation of BWCs in a police department can increase stress on officers and lead to officer burnout.[259] If officers in a particular agency perceive the deployment of BWCs as an unfair action by their

[259] Ian Adams and Sharon Mastracci, "Police Body-Worn Cameras: Effects on Officers' Burnout and Perceived Organizational Support," *Police Quarterly* 22, no. 1 (March 2019): 5–30, https://doi.org/10.1177/1098611118783987.

respective agencies, they may use their discretion to engage in self-protective behaviors. For the homeland security enterprise to truly understand the influence of BWCs on officers' attitudes and policing behavior, more focused research is needed in this important area.

1. Current Focus of BWC Research

The default frame of evaluation for most BWC researchers so far has been to measure BWCs' ability to reduce what was perceived as a significant problem: the need to restore transparency and legitimacy to law enforcement by reducing use of force and complaints.[260] The ongoing proliferation of BWCs has been driven primarily by results from studies touting the technology's potential to restore legitimacy and change negative public perceptions about law enforcement. Although the presence of BWCs in a use-of-force incident can be very important and beneficial to all the involved parties, police use of force is rare event. According to Hyland et al.'s 2015 Department of Justice, Bureau of Justice Statistics' report on police use of force, a police officer uses force on a citizen in 1.6% of all police-citizen encounters.[261] The studies reviewed in this thesis show that a use of force is a rare event in policing, and the overwhelming majority of police-citizen interactions (98.4%) do not involve the threat or use of force by an officer.[262]

Since police officers are not engaging in use of force 98% of the time they interact with citizens, then why are more researchers not focusing on what officers are doing 98% of the time: policing. More specifically, why are more researchers not looking at how BWC technology influences how officers do their jobs beyond use-of-force incidents and complaints? Future research on the efficacy of BWCs should have a more pronounced focus on how the technology influences policing practices and how those changes in policing practices might affect crime. Police officers, elected officials, agency decision-makers, the media, and the public have a strong interest in understanding how BWCs will affect local policing practices. This tool should be studied and evaluated not just for how

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260 Ariel et al., "The Effect of Police Body-Worn Cameras," 509–535; Ariel et al. 293–316.

261 Hyland, et al., "Police Use of Nonfatal Force, 2002–11," 1.

262 Hyland et al., 2.

it discourages bad behavior from police officers but for how it affects policing in general and how that might impact crime.

2. Public Outreach and Education

BWC technology offers the public an insider's view of the profession of policing; however, most members of the public have less than a layperson's level of understanding of the law, police policies, training, and tactics. The general public views controversial BWC videos through an often-edited format and through an emotional lens with little foundational understanding of policing. As a result, controversial videos are routinely analyzed from an emotional rather than a legal and logical perspective. Agencies should use community outreach programs to provide educational opportunities for the citizens they serve and provide targeted training to the public, educating them on the specific laws and policies that govern officer use of force. These types of educational programs will ensure that the police and their constituents will share the same foundational knowledge of officer use-of-force training and the legal guidelines that govern that training. This will allow the public to evaluate controversial use-of-force incidents from a knowledge-based perspective instead of an emotional frame of reference. If properly administered, these public education programs can provide opportunities for the general public to understand better the dynamics of police use of force, the capabilities and limitations of BWC technology, and the legal guidelines governing an officer's decision to employ force. At the very least, community education programs will provide opportunities to foster trust between police departments and the communities they serve and allow for the development of communication networks, which can be invaluable to all stakeholders in crisis situations. If agency administrators can partner with the public to evaluate controversial incidents from the legal-policy perspective instead of an emotional frame of reference, it would result in a reduced adverse impact on both the community and the agency when controversial police-citizen encounters are captured on BWCs.

B. FUTURE RESEARCH RECOMMENDATIONS

Additional BWC research is needed with more of a focus on how the technology will affect the policing profession and the police officers themselves. The existing research

has established the efficacy of BWCs and their ability to decrease perceived negative outcomes of policing, use of force, and complaints. Law enforcement agencies worldwide have spent millions implementing BWC programs, and additional taxpayer dollars are spent annually for storage of evidentiary video. The BWC industry has been firmly established and the political and public expectation is ever-present for controversial incidents between the public and the police be captured on BWC. The greatest area of need regarding BWC research is answering the question: how BWCs will affect policing practices long term.

As discussed throughout this thesis and described in the dataset analyzed in the thematic analysis, the potential for officers to negatively change how they perform their duties is an area of concern and a valid avenue for future research. Since instances where officers are involved in use-of-force incidents or generate citizen complaints are relatively rare, the effect of BWCs on officers' daily policing activity is of paramount importance. If officers use their discretion to focus on minor traffic violations and similar policing activities, which are less likely to result in confrontation or controversy, there exists the potential for more serious criminal activity to continue undetected and unabated.

1. Important Stakeholders/Policy Recommendations

BWC programs have proliferated at a rapid rate across the country by offering a solution to prevent some of the most controversial police-citizen confrontations ever seen in our country. The media, activists' groups, and politicians promoted BWCs as a unique technological advancement that could provide unprecedented levels of transparency and restore police legitimacy. Public expectations were set based on these premises. How well BWCs meets these expectations is a topic for researchers to evaluate in the future. However, efforts should be made by agencies with BWCs and agencies looking to deploy BWCs in the future to include all internal and external stakeholders in policy- and program-development decisions regarding the transformational technology. For the public to see the expected results from BWCs, officers have to readily accept the technology and successfully implement it with as little adverse impact on policing practices. Establishing realistic and fair departmental policies is of paramount importance.

The overall success of BWC programs is dependent on the individual agency policies governing the technology's use in the field. Regardless of the local circumstances under which an agency initiates a new BWC program, great care must be given to include the individual officers who will deploy the BWC in the field during the policy-development process. The police officers themselves must be considered important stakeholders to increase the success of the technology, since a great majority of officer perception surveys discussed in this thesis expressed concerns that BWC videos would be used to discipline officers for what they perceive as minor policy violations. Additionally, officers in multiple departments expressed a desire to be allowed to review recorded videos during the report writing process to ensure accuracy.

Although public expectation in many municipalities is that BWC will create positive changes in officer behavior and increase transparency, agencies must balance the need to meet public expectations with the need to develop policies that take officers' perspectives into consideration. The overall goal during BWC program implementation should be to successfully deploy the technology in a manner that provides the public transparency and is sympathetic to the concerns expressed by officers. If this balance is achieved, it has the potential to minimize the development of adverse attitudes and protective behaviors by officers, increase the likelihood of success, and reduce any adverse impact on the perception of crime. Since the officers themselves will have the closest contact with the technology, the attitude and behaviors created by the presence of BWCs creates are of utmost importance.

As detailed in the thematic analysis, agencies that saw the most successful BWC deployments enacted policies that allowed officers to review videos or limited supervisory review in some manner. The most successful deployments were inclusive of officer concerns and incorporated them or their union representatives in the policy-making decisions. The inclusion of officers in the policy development process provides them a voice and fosters a collaborative environment where the perception of organizational support is maximized and officers are more likely to view BWCs in a positive light.

It is important to note that the employer/employee relationship that exists between law enforcement agencies and their officers makes it so officers may be compelled to wear

a BWC as a requirement of their continued employment. Administrators should note that although they have the power to impose changes upon their employees, those changes are better received and new programs are likelier to succeed when the employees are provided a conduit to be involved in the process and voice their concerns. This will facilitate employee buy-in and perhaps allow for the very officers deploying BWCs to find the significant value and independent evidentiary protection BWCs offer them.

2. Maximize the Value of BWCs to the Policing Mission

One of the differences between BWCs and other technologies used on a daily basis by police officers is the fact that BWCs did not organically diffuse into the profession based on a perceived need. The technology was developed by outside companies and the proliferation of BWCs within law enforcement initiated externally from a convergence of public pressure, activism, and media attention of controversial incidents. One of the ways police executives can increase officer acceptance and buy-in of the technology is by incorporating the use of BWCs and the videos themselves into departmental policing strategies. If the officers see their cameras as more than just an oversight tool intended to reform their behavior, they are more likely to readily accept BWCs without developing a negative attitude or engaging in self-protective behaviors. Police administrators and executives must seek out opportunities to show the officers the value BWCs have to protect them from frivolous complaints and false allegations of misconduct. Officers must be shown how BWC videos will assist them in writing more accurate and detailed reports and provide valuable digital evidence in court proceedings. In order to maximize officer acceptance and buy-in, agencies should institute policies in which officers are notified when a BWC video they recorded cleared them of an allegation of wrongdoing. For widespread officer acceptance of BWCs, they need to see how this technology is going to benefit the profession, keep them safer, and make them more effective at policing.

The final vignette provides an example of how an agency can actively seek out opportunities for their officers to realize the value of BWCs and strengthen POS. In this part of the fictionalized story, an officer who was initially a skeptic finally sees value in BWCs.

3. Vignette: Full Circle

As Matthews checked his department mailbox before roll call, he gasped and felt the color leaving his face at the sight of the sealed letter from the Internal Affairs Division. Matthews knew he had been following the rules since he was hired and had not been involved in any controversial incidents, yet the thought of nine more months of a probationary period where he could be fired for anything lingered in his mind as he held the sealed envelope. As he started to break open the seal, FTO Sanders walked up and asked, "Is your resume up to date?" Sanders immediately started laughing at the sight of the pale rookie's reaction to the question. "Don't worry, it's going to be good news. IA delivers bad news in person. They don't send letters when they are going to discipline you."

Matthews read the letter out loud, "A BWC video you recorded was reviewed by IA in response to an allegation of racial profiling. The BWC video documentation disproved the allegation and resulted in the case being closed without the need for further investigation. Ofc. James Matthews has been exonerated of any wrongdoing and this case has been closed as unfounded."

Sanders congratulated Matthews and showed him she had received the same letter for the same incident. She reminded Matthews of the call they handled where they stopped the group that looked to be gang members but turned out to be kids looking for their aunt's house. Sanders explained, "The aunt made a complaint and the BWC videos cleared us both without having to give statements. The best thing is that the complaint won't show up on either of our permanent records because it was cleared without an investigation." As the two of them walked toward the parking lot to begin their shift, she admitted to Matthews that maybe she was wrong to be against BWCs if it can help officers in situations like these…

4. Train Officers for Encounters/Interpersonal Skills on BWCs

The implementation of BWCs brings with it the need to train officers on many aspects of the technology. This training should go well beyond the administrative functions of how to start and stop recording or how to add agency required data to recorded videos for storage and retrieval. Agencies seeking to have the most successful BWC programs

must provide more targeted training that teaches their officers how to police on camera. In many agencies, officers receive the minimum required hours of in-service training to maintain their professional standards once they are in the field. The introduction of transformational technology like BWCs requires agencies to invest in increased training with an emphasis on teaching officers how to police on camera. This is a skill set that many officers have never been exposed to and must be developed through training. Some may argue that the manner in which officers perform their job functions should not change as a result of the addition of a BWC; however, the data analyzed in this thesis clearly shows changes in officer behavior, positive, neutral, and negative, in the wake of the introduction of BWCs.

Since many officers receive a minimum amount of training that is often focused on physical skills, like firearms and defensive tactics, there is an ever-present need for interpersonal skills training that would be beneficial to both the officers and the agencies when deploying BWCs. One form of interpersonal skills training that is gaining notoriety within the law enforcement profession is de-escalation training. In its 2015 report titled "30 Guiding Principles," the Police Executive Research Forum analyzed the breakdown of basic recruit training programs and emphasized the fact that a great deal of training time is spent teaching recruits how to use force and an insufficient emphasis is placed on teaching recruits communications and de-escalation skills.[263] As a result, officers are better prepared to fight than talk to the people they encounter. The presence of BWCs increases the need for officers to have a well-developed communications skillset, which allows them to talk their way out of situations where they may have been more likely to use force in the absence of a BWC.

Increased focused training on communication skills with a BWC activated during scenarios provides officers with the opportunity to develop and hone their ability to verbally communicate. Additionally, BWC videos recorded during training scenarios should be reviewed and analyzed by the involved officers and trainers in a safe, non-

263 "30 Guiding Principles," Police Executive Research Forum, 2016, https://www.policeforum.org/assets/30%20guiding%20principles.pdf.

judgmental environment to produce the optimal opportunity to learn new skills. In the same manner that professional athletes review videos of their on-field performances, officers should review scenario-based training videos to identify areas for improvement. Training builds competence and competence builds confidence. A competent, confident, well-trained officer is less likely to engage in self-protective behaviors and increases their policing efficiency and effectiveness.

At the basic recruit level, BWCs should be introduced at the police academy level, at an early stage, to facilitate the familiarization process and the same scenario-based approach as previously detailed should be implemented. With the awareness that a BWC is present at all times, the new officer is intimately familiar with BWCs even before they embark on their career in the field and develop their policing skill-set. De-escalation skills should be included in the training program and the delicate balance between teaching officers how to be vigilant to safety concerns must be on par with the need for officers to know how to talk to the people they will encounter in the field.

C. CONCLUSION

The police BWC is a relatively new piece of technology that has tremendous potential to provide the public with an insider's view of what transpires in interactions between the police and the citizens they serve. This potential strength must be tempered with the technology's limitations in order to create realistic expectations for the public and the law enforcement community. The BWC is one of the most widely deployed tools for law enforcement today and is only expected to be more widely deployed moving forward; BWCs are here to stay. The question for researchers and officers now becomes this: Is the BWC a welcome innovation or a distressing imposition? This thesis has shown that the short answer to that question—from the perspective of the officers themselves—is, "It depends." Some agencies that participated in research studies reported great success, while others found alarmingly adverse changes in officers' attitudes, policing behaviors, and productivity. The dataset analyzed in this thesis has clearly shown that BWCs have an impact on officers' attitudes and policing behaviors. In some instances, those attitudinal and behavioral changes were quite negative and had a direct influence on productivity;

however, the dataset does not illustrate direct causation of adverse attitudinal or behavioral changes as a result of BWC implementation. At best, this thesis has highlighted the highly complex nuances and influences that are present in agencies that also affect policing practices during BWC deployments. Additionally, officer training, field experience, and level of hypervigilance also influences their attitudes and policing behaviors.

Regardless of one's position on the value of police BWCs, the majority of the available research shows that the benefits outweigh the known adverse effects. It is only through continued scrutiny and evaluation that the homeland security enterprise will truly understand the full implications this technology will have on policing, the public, and crime. Efforts should be made by law enforcement executives and leaders to find opportunities to demonstrate to the police officers they lead just how valuable and important BWCs can be to the policing profession.

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